Oral Health: An Essential Component of Primary Care

White Paper

June 2015

National Interprofessional Initiative on Oral Health
engaging clinicians eradicating dental disease

DentaQuest FOUNDATION

REACH healthcare foundation

Washington Dental Service Foundation
Community Advocates for Oral Health

Foreword

Strengthening the primary care delivery system, investing in prevention, and reducing unnecessary costs are national healthcare priorities. As the leaders of organizations committed to advancing oral health, we see a clear opportunity to improve health, reduce waste, and maximize the value of our limited healthcare workforce by incorporating oral health in routine medical care.

We commissioned an initiative to develop, test, and disseminate an actionable pathway for delivering preventive oral health care in the primary care setting, and improving the structure of referrals from primary care to dentistry. We assembled a Technical Expert Panel to guide this effort, which included primary care and dental care providers, medical and dental associations, payers and policymakers, a patient and family partnership expert, and oral health and public health educators and advocates.

Based on input from this panel, and a careful review of previous efforts to integrate once fragmented services into primary care, the authors developed an organizing framework, which we present in this white paper.

The *Oral Health Delivery Framework* has been endorsed by a broad array of organizations, and is consistent with how primary care teams manage preventive, acute, and chronic care needs for a wide range of clinical conditions across the lifespan. As such, we believe that implementation of the Framework is an achievable goal.

It has been 15 years since the U.S. Surgeon General identified oral disease as a priority health concern and documented pervasive and systemic barriers to dental care. Despite calls for all healthcare professionals to pay attention to oral disease, too little progress has been made in reconfiguring the healthcare delivery system to better meet our nation's oral health needs. Only by partnering together can we reduce the burden of oral disease. We hope that the information presented in this white paper will inspire primary care teams and dental health professionals—and the stakeholders that support them—to end the artificial separation of oral and systemic health.

Additional resources will be available in 2016 along with results from over a dozen primary care practices field-testing the *Oral Health Delivery Framework*.

We thank all who are participating in this initiative.

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Endorsements

The *Oral Health Delivery Framework* is endorsed by the following organizations:

American Association for Community Dental Programs

American Association of Public Health Dentistry

American College of Nurse Midwives

American Public Health Association – Oral Health Section

Association for State and Territorial Dental Directors

Institute for Patient- and Family-Centered Care

National Association of Pediatric Nurse Practitioners

National Network for Oral Health Access

National Organization of Nurse Practitioner Faculties

Physician Assistant Education Association

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A Call to Action

Introduction

Despite the availability of effective prevention and treatment methods, we have seen only small improvements in oral health status over the past two decades—and among some populations, oral health status has actually declined.[1,2] In 2000, the U.S. Surgeon General identified oral disease as a "silent epidemic."[3] New research is confirming what many have intuitively known for some time—a person's oral health impacts their overall health and quality of life.[4–6]

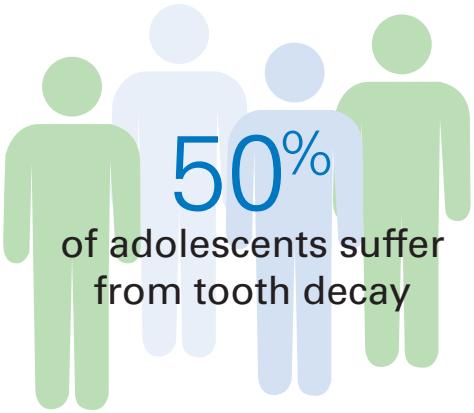
A person's oral health impacts their overall health and quality of life.

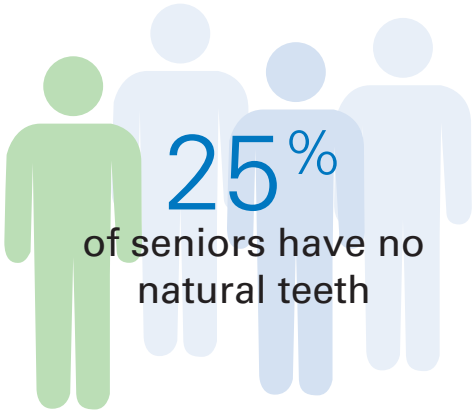
Moreover, oral disease is preventable. Dental caries can be prevented with daily brushing and flossing, a healthy diet, and simple preventive measures such as fluoride. Limiting alcohol and avoiding tobacco is important for the prevention of oral cancer. Yet many Americans do not benefit from available preventive measures because they have not successfully incorporated oral self-care into their daily routine, lack access to dental care, or live in communities without fluoridated water. This "prevention gap" results in an unnecessarily high burden of oral disease nationwide.

Most oral disease is preventable.

Dental caries is the most common chronic disease of childhood. One-quarter (25%) of children aged 2–5 and half (50%) of children aged 12–15 suffer from tooth decay.[7,8] Nearly 25% of adults aged 20–64 report having untreated dental caries,[9] which at any age can lead to pain, tooth loss, and infection. Among older adults (65 years and above), 25% have lost all of their teeth—putting them at risk for compromised nutrition and other complications.[7, 10] Oral and pharyngeal cancers, often diagnosed too late, kill more than 7,800 Americans each year,[7] nearly double the number of patients who die from cervical cancer.[11]

Oral disease impacts systemic health, particularly for patients with chronic diseases, such as diabetes.[4] Failing to prevent or control the progression of oral disease may increase the risk of serious adverse health outcomes.[10]





The cost of this "silent epidemic" is mounting. In 2013, the total cost of dental services reached $111 billion[12] with significant spending on restorative care for oral disease that could have been prevented or—if caught earlier—treated with lower-cost, lower-risk interventions. Utilization and source of care patterns are also troubling, with an increasing number of Americans turning to the emergency department (ED) for non-traumatic acute or non-urgent oral health conditions.[13] In 2010 alone, Americans made 2.1 million visits to EDs for dental conditions at an estimated cost of $867 million to $2.1 billion.[13,14] Between 2000 and 2008, hospitalization for complications of abscessed teeth cost the U.S. healthcare system $858.9 million.[15]

The Silo Effect

Despite the prevalence, severity, and cost of this largely preventable disease, oral disease has not received the attention it deserves. For too long, oral healthcare has been separated from routine medical care—with some considering it discretionary.

The separation of the mouth from the body has been built into the cultures of medicine and dentistry for generations by separate training programs, professional identities, payment structures, and delivery systems. As a consequence, collaboration between medicine and dentistry rarely occurs. Referrals from primary care providers to medical specialists have standard protocols for requesting either a procedure, the answer to a question, or the transfer of care with expectations for a consultation report after the patient is seen. No such standards exist for communication between medical providers and dentists.

The oral healthcare delivery system, as it is currently configured, fails to reach the populations with the highest burden of oral disease resulting in significant and pervasive oral health disparities for low-income, minority, rural, and other underserved populations. For example, the prevalence of caries among poor and near-poor five-year olds (50%) is twice that of their non-poor peers.[16] Yet in 2010, only 20% of Medicaid-enrolled children under age three received dental care; and, in one study, only 9% received preventive dental care.[17]

The *Report of the U.S. Surgeon General on Oral Health,* published in 2000, called for all healthcare providers to participate in oral healthcare—a call that was echoed by the Institute of Medicine in 2010 and affirmed by the Health Resources and Services Administration (HRSA) in 2014.[3, 18,19]

We see new opportunities to act on this call. The primary care delivery system is in the midst of a transformation—striving to provide more patient-centered, coordinated, and value-oriented care. A supporting element of this "transformation" is an evolving healthcare payment environment, which brings new expectations, challenges, and new opportunities for managing costs and improving health outcomes.

The oral healthcare delivery system, as it is currently configured, fails to reach the populations with the highest burden of oral disease resulting in significant and pervasive oral health disparities.

Engagement in oral health is a strategy to achieve primary care's goal of improved care for individuals, improved health for populations, and lower overall costs.

A New Approach

To reduce the burden of oral disease we need to find new ways to engage patients and families, and to make oral health preventive care more accessible. Primary care teams have the skills and relationships necessary to accomplish both. What is lacking is a clear definition of what can be done in the primary care setting, and a practical model for a close working partnership between primary care and dentistry. To address this gap, we offer an organizing framework.

Our *Oral Health Delivery Framework* delineates the oral health activities for which a primary care team can take accountability—activities we believe are: 1) necessary to protect and promote oral health; 2) fully within the scope of primary medical care; and 3) if organized efficiently, possible to provide in a variety of primary care settings. These activities directly align with how primary care teams manage preventive, acute, and chronic care needs for a wide range of clinical conditions across the lifespan. For example, primary care providers routinely screen their patients for factors that increase a person's risk for cardiovascular disease, including obesity, smoking, elevated blood pressure, and cholesterol. Reducing risk involves active discussion of behavior change, such as reducing carbohydrate and sugar in the diet and regular exercise. Primary care providers are alert for early signs of cardiovascular disease such as chest discomfort on exertion, or subtle EKG changes. In situations in which the level of suspicion for cardiovascular disease is sufficient, the primary care provider will refer to a specialist, in this case a cardiologist, who has the training and the tools to determine the precise diagnosis and treatment options. In the same fashion, we believe that primary care teams can engage patients and families in the prevention of oral disease, offer preventive interventions such as fluoride, and detect disease in its earliest phase; referring those in need of treatment.

Dental decay is an infectious disease.

The proactive coordination of care is central to primary care's relationship with medical specialty services, including hospitals and emergency departments, and we believe it can be applied to oral health services as well. The referral process between primary care and dentistry does not need to be reinvented. There is a wealth of experience on how to structure referral agreements between primary care and specialty care providers, including expectations and information exchange. By routinely addressing oral health and actively supporting referrals to dentistry, primary care teams elevate assessment and care of the teeth, gums, saliva, and oral mucosa to a status equal to that of every other organ system in the body. By actively coordinating referrals, primary care providers facilitate the kind of partnership with dentistry that is the standard among health professionals across disciplines.

The *Oral Health Delivery Framework* was developed in partnership with a panel of experts, including primary care and dental care providers; leaders from medical, nursing, and dental associations; payers and policymakers; a patient and family partnership expert; and oral health and public health advocates. Additionally, it has been endorsed by a broad array of organizations. For a complete listing of those involved, see pages 3–6. The Framework builds upon a recent report from the Health Resources and Services Administration (HRSA) that confirmed primary care providers are positioned to develop interprofessional core clinical competencies for oral health preventive care, and with training can reliably identify and intervene in the oral disease process.[19]

The *Oral Health Delivery Framework* is a conceptual framework for how to address oral health in the primary care setting. While evidence for this framework is not as robust as for other primary care delivery models (e.g., Chronic Care Model), it is built on sound clinical concepts and informed by the successful experience of behavioral health integration efforts. Diverse primary care settings such as Marshfield Clinic, Confluence Health, and The Child and Adolescent Clinic (featured as case examples in this paper), and the Group Health Cooperative, have successfully incorporated some components of the Framework and are models from which to learn.[20] In addition, the *Oral Health Delivery Framework* is being tested in over a dozen private practices and community health centers in five states. Results from their experience, as well as supporting protocols and tools, will be published in 2016.

"Oral health is a primary care homerun."[21] Rarely do serious health problems have effective and affordable solutions with an able delivery system. We hope the *Oral Health Delivery Framework* presented in this paper—and forthcoming resources—will provide primary care teams and dentists with the tools they need to improve oral health in partnership with the patients and families they serve. The final section of this paper offers specific recommendations to stakeholders on the key payment, policy, and social changes that will be necessary for the robust integration described herein to become a viable and sustainable reality for all primary care practices.

> "Oral health is a primary care homerun."
> *Judith Haber, PhD, APRN, BC, FAAN, New York University College of Nursing Faculty Practice*

Why Focus on Oral Health?

Oral disease exacts a heavy toll on patients, families, and communities; and results in unnecessary healthcare costs for public and private payers as well as consumers. This section summarizes the costs and consequences of oral disease, describing why oral health should be a priority for primary care.

The Unrecognized Burden of Oral Disease

Oral health, inextricably linked to overall health, is essential for healthy development[8] and healthy aging.[10] The consequences of oral disease are often minimized or discounted,[3] yet oral complications reflect, exacerbate, and may even initiate, other health problems,[8] and they can have a profoundly negative impact on quality of life.

"The mouth is a mirror for the body." *U.S. Surgeon General's Report, 2000*

Health Impact

Dental decay is an infectious disease caused by the disruption of the balance of normal oral bacteria and overgrowth of cariogenic organisms (primarily *Streptococcus mutans, S. sobrinus* and *lactobacilli*) as a consequence of diets increasingly rich in processed carbohydrates and refined sugar. If left untreated, decay can result in tooth loss, abscess and resulting bone loss, and systemic infection. In severe cases, these infections may lead to death.

Periodontitis (also known as gum disease) is a condition of chronic, and sometimes acute, inflammation, which over time causes the gums to pull away from the teeth, leaving pockets that become infected. Bacterial toxins and the body's natural immune response break down the bone and connective tissue that hold teeth in place, resulting in tooth loss.

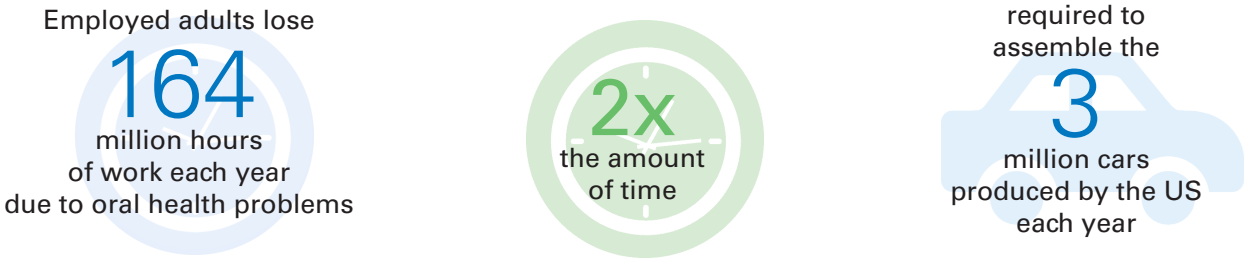
Periodontal diseases may be a risk to general health, particularly for patients with other chronic diseases. For example, new evidence is demonstrating a relationship between periodontal disease and diabetes. Among patients with diabetes, periodontal disease appears to accelerate both pancreatic failure and end-organ ischemic vascular disease (a group of diseases caused by arterial insufficiency), including stroke, myocardial infarction, and renal failure.[26, 27] Periodontal inflammation is also associated with ischemic vascular disease in the absence of diabetes.[28] Maternal periodontal disease during pregnancy may be associated with increased risk of pre-term delivery[29] and low birth weight.[30–32]

Bacteria in the mouth can travel to other systems in the body[8] and have been found in samples removed from brain abscesses,[22] pulmonary tissue,[23] placentas,[24] and atherosclerotic plaque in the arteries of the heart.[25]

Quality of Life

Oral disease also reduces quality of life and productivity, both at school and in the work place. Dental caries is associated with impaired growth in children and can affect their appearance, self-esteem, and speech.[1] Children with poor oral health have significantly higher school absence and poorer academic performance than their peers, independent of socioeconomic factors and race.[33] For example, one study of disadvantaged children in California found that children (ages 5–18) lost an average of 2.19 school days per year due to oral health complaints; and in turn, their parents lost an average of 2.53 work or school days to caregiving.[34] Students with toothaches were nearly four times as likely to have a low grade point average compared to children without oral pain.[34]

Employed adults lose 164 million hours of work each year due to their own oral health problems or dental visits[35]–twice the amount of time required to assemble the three million new cars produced by the U.S. each year.[36] Oral pain can restrict normal activity, disturb sleep, and reduce overall quality of life, particularly among older adults.[10] Tooth loss can also have a significant indirect economic cost. Adults with missing teeth are more likely to report having trouble finding employment due to negative judgments on their appearance or speech. While data on the magnitude of indirect economic costs are limited, research has shown that treatment for oral health conditions can improve employment opportunities for low-income adults.[37]



The consequences of oral disease are often minimized or discounted, yet oral complications reflect, exacerbate, and may even initiate, other health problems—and they can have a profoundly negative impact on quality of life.

High Costs, Wasted Resources

A significant proportion of dental expenditures are for expensive, invasive treatments to address disease that could have been avoided with adequate prevention or—if identified earlier—treated with lower-cost, lower-risk interventions. For example, childhood caries can be prevented with adequate information to caregivers about preventing caries, effective oral hygiene, a healthy diet, and low-cost fluoride. If cavities develop, but are caught early, they can be treated in the outpatient setting. Yet too often, childhood caries goes unrecognized or untreated resulting in serious decay that may have to be addressed with expensive surgical extraction or crowns done under general anesthesia in the hospital setting.[16,39] In addition to the economic cost of these procedures, evidence suggests that even a single exposure to general anesthesia before age three places children at increased risk for disabilities in language acquisition and abstract reasoning.[40, 41] Tragically, many children from families at or below the poverty level undergo multiple such procedures for their primary teeth alone.[42] Furthermore, multiple studies have found that surgical intervention outcomes for early childhood caries[A] are poor. In one study, approximately half of children developed new enamel lesions within 4–6 months of dental surgery; and in another, nearly 60% required treatment for new carious lesions within 6–24 months of surgery.[43]

Medical Savings

A series of intriguing new reports demonstrate the potential for significant savings in total healthcare costs across a spectrum of conditions (including pregnancy, diabetes, and cardiovascular disease) with the successful treatment of periodontal disease.[4,38] These reports are based on retrospective analyses of claims data. While a precise causative relationship has yet to be supported and these reports may not be generalizable, the findings support an emerging pattern consistent with what is known about the oral systemic connection—treating oral disease can reduce complications and utilization (namely hospitalization) among patients with chronic conditions.

Among adults, invasive procedures have been linked to an increase in the incidence of cardiovascular events,[44] further demonstrating the potential costs of missed opportunities for prevention and early treatment.

Perhaps of greatest concern is that these late-stage interventions, which waste limited healthcare dollars and introduce significant risk to patients, do nothing to address the underlying cause of disease—the presence of harmful bacteria fueled by ineffective oral self-care, lack of treatment, and an unhealthy diet.

Late-stage interventions waste limited healthcare dollars, introduce significant risk to patients, and do nothing to address the underlying cause of disease—the presence of harmful bacteria fueled by ineffective oral self-care, lack of treatment, and an unhealthy diet.

A Early childhood caries is a condition characterized by multiple decayed, missing, or filled tooth surfaces in any primary tooth in a child under age 6 years.[45]

Access Challenges

The Affordable Care Act (ACA) included pediatric dental services as one of 10 essential health benefits that must be offered by all small-group and individual health plans.[46] All state Medicaid and nearly all Child Health Insurance Programs (CHIPs) provide comprehensive dental benefits for children.[47] However, only 15 state Medicaid programs provide a comprehensive dental benefit for adults,[48] and "routine dental care" is explicitly excluded from Medicare by federal statute. Only half of employers offering medical benefits provide or contribute to a dental insurance benefit.[49] This coverage gap leaves approximately 108 million people in the U.S. (nearly 40% of the population) without dental insurance—more than two-and-a-half times the number of Americans who lack medical insurance.[50,51] Even with dental insurance, coverage often does not cover the full cost of treatment because most dental insurance policies are actually pre-paid benefit plans not intended to cover the full cost of procedures. In 2011, 6% of children and 16% of adults under the age of 65 (regardless of insurance status) did not receive needed dental care because they could not afford it.[52]

Underserved patients face additional challenges in accessing dental care including transportation issues, health literacy challenges, and social and cultural factors. An estimated 45 million Americans live in dental health professional shortage areas (communities in which there are 5,000 or more people for every one dentist)—equal to the population of the West Coast (Washington, Oregon, California).[50, 53] The uneven distribution of dentists particularly impacts rural and low-income communities.

Americans are more likely to visit a primary care provider than a dentist, making the primary care setting a more reliable source of preventive oral health care.

Promoting and Protecting Oral Health: Complementary Roles for Primary Care and Dentistry

Patients face significant barriers to achieving optimal oral health. These include a lack of useful education on oral health risks and how to prevent oral disease, challenges with self-care, and limited access to dental care.

Enhancing access to affordable dental care is important in its own right, but is unlikely to be a sufficient strategy for reducing the burden of disease.

Defining Primary Care

Dental professionals can be a vital part of the primary healthcare system. For simplicity throughout this document, the term "primary care" is used to delineate medical care settings and professionals, specifically nurse practitioners, nurse midwives, physicians and physician assistants, and the teams that support them.

To effectively combat oral disease, we need to expand the oral disease prevention workforce and intervene earlier in the course of disease. Primary care providers (including physicians, nurse practitioners, physician assistants, and nurse midwives) and their teams have the skills, resources, tools, and scope of practice required to understand and intervene in the oral disease process.[19] Utilizing these professionals for prevention and early detection will improve patient and family health, and maximize the value of the healthcare workforce by preserving the time and skills of dentists to manage complex disease.

This section explores the complementary roles of primary care and dentistry in addressing oral disease, and describes the benefits of providing preventive oral health care in the primary care setting.

To reduce the burden of oral disease, the efforts and skills of both primary care providers and dentists, and their respective teams, will be required. The job is too great for either discipline alone.

Understanding Oral and Dental Disease and Defining Oral Health

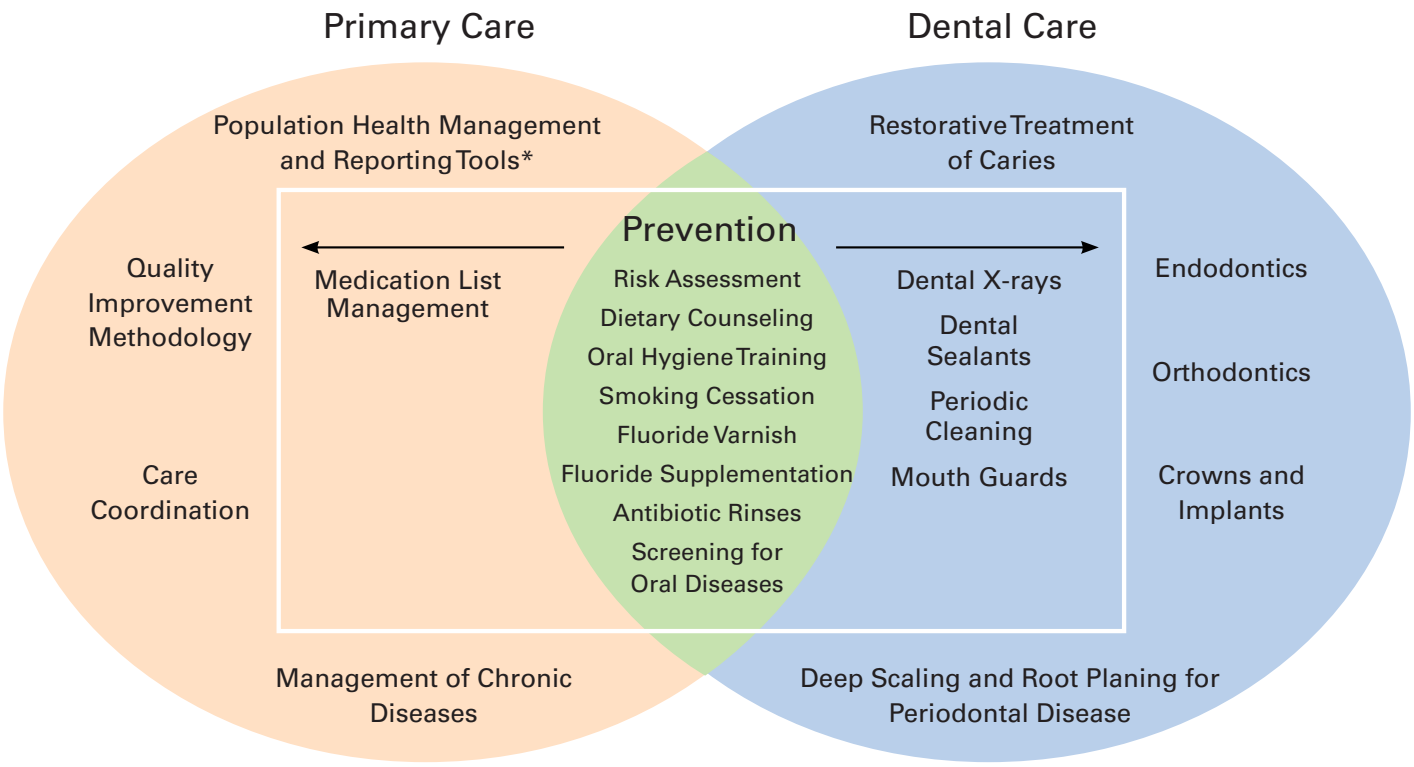
Oral disease encompasses all unhealthy conditions of the teeth and soft tissues in the oral cavity including: oral cancer; Temporomandibular joint dysfunction (TMJ); caries; periodontal diseases; salivary gland tumors; congenital anomalies (e.g., cleft lip and palate); soft tissue oral conditions such as lichen planus, pemphigus, herpes, and Acute Necrotizing Ulcerative Gingivitis (ANUG). Dental diseases are limited to teeth and gums, primarily caries, gingivitis, and periodontal diseases.

Oral health can be defined as a state of being free from chronic mouth and facial pain, oral and throat cancer, oral sores, birth defects such as cleft lip and palate, periodontal (gum) disease, tooth decay and tooth loss, and other diseases and disorders that affect the oral cavity.[54]

A New Partnership

To reduce the burden of oral disease, the efforts and skills of both primary care providers and dentists, and their respective teams, will be required. In this new partnership, the role of the primary care provider and team is to assess and reduce risk, screen for signs of early oral disease, implement preventive measures (e.g., apply fluoride varnish), and identify patients in need of dental care. Dentists have a complementary role in preventing oral disease and identifying patients at elevated risk, and they have additional preventive strategies at their disposal, for example, dental sealants. Primary care providers and dentists also have unique roles. For example, although dentists have prescriptive authority, it is the primary care provider who is responsible for ensuring the accuracy and overall safety of the patient's medication list, including making changes to reduce side effects such as dry mouth. Only dentists can treat dental diseases to restore oral health. Providing preventive oral health care in the primary care setting is intended to enhance, not replace, the prevention-related care of a dental team. Figure 1 illustrates the complementary roles of primary care providers and dentists.

Figure 1: Partnering to Expand Prevention



*Including structured EHR data and diagnostic codes, disease registries, and other tools

Expanding Opportunities for Oral Health

Incorporating preventive oral health care in routine medical care offers at least three advantages:

1) It will expand access for most patient populations, particularly high-risk groups.

2) Primary care teams have skills and tools for engaging patients and families in self-care practices. These can be used to help patients and families develop oral health self-care practices, such as brushing, flossing, and healthy diet choices.

3) Primary care teams have expertise in care coordination, a skill essential for supporting referrals to dentistry.

"A significant number of our patients don't receive basic oral health services, so we are the starting point for good oral health."
John Donaghy, Practice Manager, Confluence Health Wenatchee Pediatric Clinic

Accessible Primary Care

Americans are more likely to visit a primary care provider than a dentist, making the primary care setting a more reliable source of preventive oral health care. In 2012, 82% of adults and 93% of children made at least one visit to a physician or other ambulatory care provider.[55] By comparison, only 61% of adults visited a dentist, with significantly lower visit rates for uninsured, unemployed, low-income, Hispanic, and African-American adults, as well as adults with Medicare or Medicaid coverage.[55] Among children with commercial insurance, 58% received dental care at least once per year.[56] Rates were lower for children with Medicaid coverage (44%), particularly for the very young.[56]

The regularity and frequency of contact with primary care offers particular benefits for at least three high-risk/high-need groups: children, pregnant women, and people with diabetes.

- **Children:** The vast majority of children, especially young children, see their primary care provider on a routine basis for well-child care visits and other preventive services, such as immunizations. Offering preventive oral health care as a standard component of routine well-child care expands access, including the opportunity for referral, for nearly all children and adolescents.

- **Pregnant women** face barriers to accessing dental care, regardless of income or insurance status. Only 50% of pregnant women with a dental problem visit a dentist during their pregnancy.[57] Many dentists mistakenly believe that dental care could put pregnant patients at risk, and convey the message that dental care should be delayed until after delivery; despite evidence showing that dental care, including radiographs, local anesthesia, and oral pain medication is safe throughout pregnancy.[58] Nearly 75% of pregnant women receive prenatal care in the first trimester of pregnancy (and an additional 20% receive prenatal care beginning in the second trimester) from a primary care provider, midwife, or physician specialist,[59] yielding an important access opportunity.

- **People with diabetes** are at high risk for oral health complications, and untreated oral disease may complicate diabetes. Most patients with diabetes see their primary care team on a regular basis for chronic illness care, including screening, self-management support (e.g., goal setting for diet and exercise), and medication management. Preventive oral health care fits squarely within chronic illness care for diabetes, and oral health self-care messages reinforce those already addressed in diabetes care; for example, the importance of reducing sugary beverages.

"A member of our research team, who was trained as a dentist and has diabetes, took our clinic's diabetic education class. He noticed that in seven hours, no one talked about the importance of good oral health. At the end, he asked us why. Everyone was left scratching their head with no good answer. Frankly, I was embarrassed that as a family doctor, I'd been ignoring this important piece of health care...Once we saw this gap, we knew we needed to address it." *Eric Penniman, DO, Primary Care Medical Director, Eastern Division.*

Prevention Experts

Primary care teams provide comprehensive care across the lifespan, and take a "whole-person" approach to health and wellness. As such, primary care is the ideal setting in which to deliver many of the education and self-care messages patients need to understand how they can reduce their risks for oral disease. In fact, primary care teams already provide guidance on topics critical for oral health such as diet and nutrition, tobacco cessation, and alcohol reduction. Moreover, primary care teams use specific techniques and tools (e.g., motivational interviewing, teach back, goal setting) that have been shown to help patients and families engage in self-care for many other chronic conditions such as diabetes, asthma, and obesity.

Delivering preventive oral health care is a natural extension of what primary care teams already do.

Care Coordination Experts

Primary care teams also have specific expertise—and in advanced settings, supporting resources such as referral coordinators—to help patients access care from other providers and coordinate care transitions. Care coordination, which is now standard work for primary care teams, can be applied to dentistry and offers an important benefit for patients and dentists alike. For example, at The Child and Adolescent Clinic, a referral coordinator helps patients access needed dental care by identifying a dentist that will take the patient's insurance, making an appointment for the patient, and removing barriers that might limit the patient's ability to keep their appointment by arranging for transportation or a medical interpreter, if needed. Learn more about The Child and Adolescent Clinic's oral health program.

Preventing Childhood Caries in Primary Care

The American Academy of Pediatrics recommends that oral health risk assessment begin before the first tooth erupts, i.e., prior to 6 months of age. A primary preventive intervention for children is fluoride to protect the teeth.[60] In 2014, the U.S. Preventive Services Task Force (USPSTF) recommended that primary care clinicians prescribe fluoride supplementation for children aged 6 months to five years whose water supply is deficient in fluoride, and provide fluoride vanish for all children from the time their first tooth erupts through age 5.[61]

Primary care teams can help patients understand the importance of oral health in the context of their overall health and reinforce messages patients hear in the dental office.

Benefits of Integrated Oral Healthcare for Patients

All patients can benefit from integrated care. The story below illustrates how a primary care intervention for a common oral health condition might have prevented unnecessary complications, pain, and suffering.

Ms. D's Story, Benefits of Coordinating Care

Ms. D is a 48-year-old female, diagnosed with diabetes seven years ago, who weighs 254 pounds. She lives with her husband and two children and has medical and dental insurance. She works as a clerk at her local grocery store. Her problem list includes obesity, diabetes, and smoking.

Since her diabetes diagnosis, she has regularly seen her primary care physician, but has struggled to keep her HbA1c level below 8. She has a 'sweet tooth' and with a full-time job and two teenagers, she doesn't have much time for cooking meals at home. Ms. D has periodically complained of pain while eating at her primary care visits over the last several years, but her provider has been concerned about her feet and arranging care from a podiatrist. She has not been sure what to do about Ms. D's oral complaints in the short amount of time they have together.

After several complaints about pain, the clinic's nurse suggests Ms. D see a dentist. However, Ms. D does not have a relationship with a dentist and is unsure who to contact or how to request an appointment. Further, Ms. D is already taking time off work to attend her medical appointment and is concerned she will lose her job if she requests more time off.

Six months later, Ms. D presents at the Emergency Department (ED) in severe pain. Upon exam, the physician finds she has a tooth abscess from advanced decay. The ED physician incises and drains the abscess and prescribes antibiotics to control the infection. He cautions her that this will not be the only abscess she experiences if she doesn't get treatment soon for the other visible cavities in her mouth.

Ms. D returns to her primary care provider for a regular diabetes care check-up, and tells her about the experience in the ED and what that physician told her about her teeth. Ms. D's provider feels badly that things progressed to that point, but doesn't know how to help Ms. D find a dentist. She feels frustrated at her inability to help her patient solve this problem, and concerned about Ms. D's overall health.

In a primary care practice with integrated oral health preventive care, Ms. D's provider would examine her mouth at regular intervals, make recommendations on brushing and flossing, and would have referral agreements in place with multiple dentists. When decay was first observed, a referral would have been made to one of those dentists. The practice's referral coordinator could have helped Ms. D make an appointment that accommodated her work schedule, allowing Ms. D to see a dentist before her caries progressed to an abscess.

Lessons from Behavioral Health Integration Efforts

The greatest challenge in delivering any type of healthcare service lies in determining the best way to fit each component of the service into the workflow of a primary care team in a way that: 1) maximizes the value of the service to the patient and family; and, 2) minimizes disruption to all of the other healthcare priorities a primary care team is expected to manage.

Like oral health, behavioral health was separated from primary care for many years, including separate cultures and barriers to sharing clinical information.[62] Recently, primary care delivery systems across the country have sought to integrate behavioral health services in order to improve patient outcomes. This movement is a result of decades of concerted effort from many stakeholders, including patients, caregivers, and families. Consumer advocacy organizations helped raise public awareness of mental illness and were instrumental in reducing fear and stigma. They also helped create, collect, and disseminate evidence on the health, social, and cost impacts of un-treated and under-treated mental illness. Over time, their efforts helped legitimize mental illness as a medical issue, and helped improve access to affordable and effective treatment options and recovery services through legislation, regulation, and voluntary health benefit changes.

While still developing, behavioral health integration efforts have gained traction from clear evidence that integrated care produces better outcomes at lower costs.[63] Lessons from these efforts are instructive for thinking about how oral health can be included as a reliable component of routine medical care. The *Oral Health Delivery Framework*, described in detail in the next section, incorporates the lessons presented here.

Like oral health, behavioral health was separated from primary care by a silo for many years, including separate cultures and barriers to sharing clinical information.

Behavioral health and oral health conditions share several characteristics. Both frequently affect the young, with lifelong consequences if untreated.[64] Both are prevalent, particularly among patients with chronic medical conditions, yet primary care providers have historically lacked the training and the tools to recognize and manage them. Most importantly, when left un- or under-treated, both behavioral and oral morbidities limit the effectiveness of treatment for a broad range of common diseases.[65]

One of the early lessons of population management for chronic conditions such as diabetes, was that unless behavioral healthcare could be offered (so that issues such as depression and chemical dependency could be effectively treated), much of the effort of the primary care team to improve the patient's overall health would remain ineffective. Yet it was also apparent that offering intense behavioral health therapy would exceed the capacity of most primary care teams.

No single model for integrating behavioral health in primary care has been found to fit all practice types. Successful integration of behavioral health depends on several factors, which are likely to be important for oral health as well. First, providers are reluctant to ask about symptoms and screen for disease if they do not have a clear conceptual framework for how to interpret the answers and quantify the severity of a condition. One of the keys to being able to manage behavioral health in primary care was the dissemination of validated screening and assessment tools for depression and anxiety such as the PHQ-9[B] and GAD-7[C] scales. These easy-to-administer tools give providers a frame of reference to assess the significance of a patient's symptoms. They also give providers a sense of confidence that they are treating a patient correctly; and when a patient's illness does not respond to treatment, these tools provide parameters for appropriate referral. Second, the work of administering the PHQ-9 and GAD-7 can be delegated to a medical assistant, who gathers information so the provider can focus on making decisions and supporting the patient. The efficiency of this dynamic is central to high-functioning and patient-centered primary care teams. Third, establishing a structured referral process for behavioral health created an expectation for the bi-directional flow of information and direct communication and collaboration between primary care and behavioral health professionals. Structured referrals create an expectation for referral tracking to assure patients receive necessary care.

These three factors (a framework combined with validated tools, a workflow based on sharing the care, and a structured referral process) have made addressing behavioral health conditions in the primary care setting possible, without an unmanageable increase in the provider's workload.

We acknowledge that there are differences between behavioral health and oral health conditions that influence the extent to which the respective services can be integrated. For example, while many behavioral health conditions can be identified and treated in the primary care setting, nearly all dental disease must be referred to a dentist for treatment in a setting with specialized equipment. Despite this and other differences, the comparison is compelling—particularly because self-care and early identification are the cornerstones of keeping both patients' minds and mouths healthy.

B Patient Health Questionnaire-9 (PHQ-9) available at: http://www.integration.samhsa.gov/images/res/PHQ%20-%20Questions.pdff

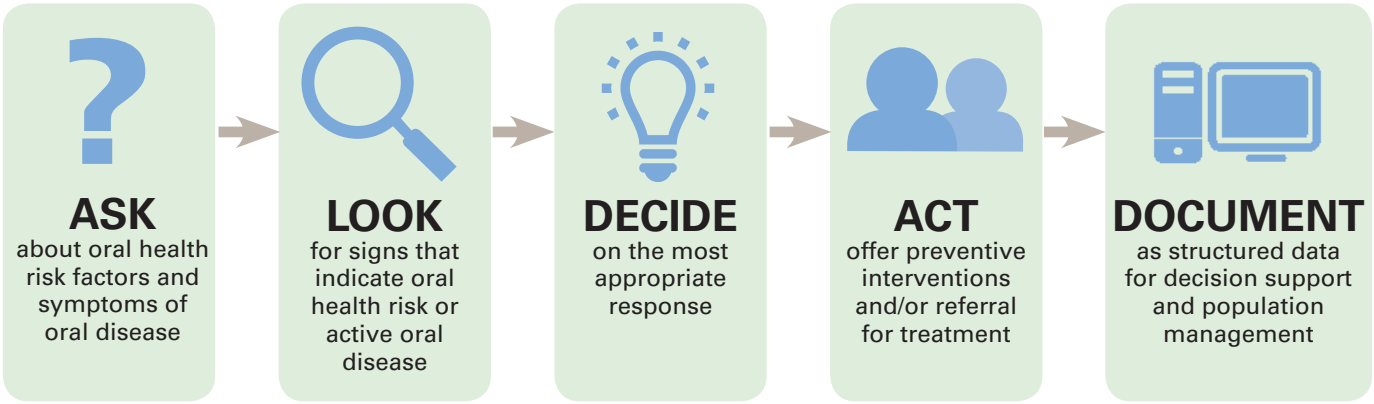
C General Anxiety Disorder-7 Scale (GAD-7) available at: http://www.integration.samhsa.gov/clinical-practice/GAD708.19.08Cartwright.pdf

The Oral Health Delivery Framework

The *Oral Health Delivery Framework* delineates the activities for which a primary care team can take accountability to protect and promote oral health. These activities are within the scope of practice for primary care;[19] and if organized efficiently, can be integrated into the office workflow of diverse practice settings. Activities are grouped into five action categories: Ask, Look, Decide, Act, and Document & Follow Up.

This section presents the *Oral Health Delivery Framework*, provides a sample workflow, and offers guidance on incremental approaches to implementation. For examples of how primary care practices have successfully incorporated components of the Framework, continue to the case examples on pages 52–61.

Figure 2: Oral Health Delivery Framework



1. **Ask about symptoms that suggest oral disease and factors that place patients at increased risk for oral disease.** Two or three simple questions can be asked to elicit symptoms of oral dryness, pain or bleeding in the mouth, oral hygiene and dietary habits, and length of time since the patient last saw a dentist. These questions can be asked verbally or included in a written health risk assessment.

2. **Look for signs that indicate oral health risk or active oral disease.** Assess the adequacy of salivary flow; look for signs of poor oral hygiene, white spots or cavities, gum recession or periodontal inflammation; and conduct examination of the oral mucosa and tongue for signs of disease.

3. **Decide on the most appropriate response.** Review information gathered and share results with patients and families. Determine a course of action using standardized criteria based on the answers to the screening and risk assessment questions; findings of the oral exam; and the values, preferences, and goals of the patient and family.

4. **Act by delivering preventive interventions and/or placing an order for a referral to a dentist or medical specialist.** Preventive interventions delivered in the primary care setting may include: 1) changes in the medication list to protect the saliva, teeth, and gums; 2) fluoride therapy; 3) dietary counseling to protect the teeth and gums, and to promote glycemic control for patients with diabetes; 4) oral hygiene training; and, 5) therapy for tobacco, alcohol, or drug addiction.

5. **Document the findings as structured data to organize information for decision support, measure care processes, and monitor clinical outcomes so that quality of care can be managed. (Follow Up).**

A Team Approach to Oral Health

As with behavioral health integration, a team approach is essential. There are a variety of ways in which to "share the care" to reliably accomplish the activities described in the *Oral Health Delivery Framework*. While the *Oral Health Delivery Framework* is possible to implement in diverse practice settings, team size and staff type may impact how the activities are assigned. Refer to Figures 3 and 4 for workflow examples in a small practice and a more resourced practice.

The *Oral Health Delivery Framework* directly aligns with the oral health core clinical competencies identified by the Health Resources and Services Administration.[19] Refer to Appendix A for a crosswalk between HRSA's Oral Health Core Clinical Competencies and the *Oral Health Delivery Framework*.

- Small practices (which typically pair a provider and medical assistant) will need to carefully assign the activities so patient-provider time is protected.
- Larger and more resourced practices may have additional members of the care team, including multiple medical assistants, physician assistants, nurse practitioners, midwives, or registered nurses, as well as clinic-wide resources supporting multiple care teams, such as care managers, dieticians, health educators, clinical pharmacists, social workers, community health workers, or other non-clinical health professionals. These practices will have more options for assigning oral health preventive care activities.
- Ideally, a practice will have a care manager (usually a registered nurse or social worker based in the clinic) who can support dietary counseling and oral hygiene training; and a referral coordinator to track referrals, ensure patients' needs are met, and support the flow of information between the referring provider and specialist.

With the exception of medication changes to protect oral health, all of the interventions appropriate for primary care can be delivered by a non-clinician member of the primary care team.

Sample Workflow

The following sample workflow is intended to provide guidance on how a primary care practice might share the activities included in the *Oral Health Delivery Framework*. Practices will need to identify their own workflow based on their patients' specific needs, their staffing resources, and other factors.

Activity 1: Ask about symptoms that suggest oral disease and factors that place patients at increased risk for oral disease.

- The medical assistant reviews the chart of every patient on the schedule at the beginning of the day, and identifies the preventive and chronic care tasks for which each patient is due, including oral health.
- During the pre-clinic huddle, the team prioritizes tasks for the medical assistant to perform while rooming each patient. This often includes setting up orders so they can be completed with the signature of the provider. These prompts are essential because they prevent important priorities from being missed or delayed.
- Risk assessment and screening for oral symptoms can take place prior to the patient meeting with the primary care provider, for example at check-in or at the start of the visit by the medical assistant. Two or three simple questions can be asked to elicit symptoms of oral dryness, pain or bleeding in the mouth, oral hygiene and dietary habits, and length of time since the patient last saw a dentist. These questions can be asked verbally or included in a written health risk assessment.
- Patients who screen positive on any one of these questions are flagged for further evaluation and basic intervention.

Activity 2: Look for signs that indicate oral health risk or active oral disease.

- A member of the primary care team conducts a brief (one- or two-minute) oral exam to assess the adequacy of salivary flow, obvious signs of poor oral hygiene, white spots or cavities, gum recession or periodontal inflammation,and examination of the oral mucosa and tongue for signs of disease. During a well-visit or complete physical exam, this activity could be included as a component of the standard Head, Ears, Eyes, Neck, and Throat Exam (HEENT exam) resulting in a comprehensive assessment that includes the oral cavity—a "HEENOT" exam.[66]
- Medical assistants can be trained to conduct oral exams and flag suspicious findings for provider follow-up. Practices that have not developed these skills among medical assistants may assign providers to conduct the oral exam.

Local Workflows

Providing flexibility is important, particularly while new workflows are being developed and tested. Marshfield Clinic carefully standardized the oral exam ("Look") process, but gives each care team the flexibility to assign tasks to staff. Some providers conduct the oral exam, while others delegate it to a member of their team, typically a medical assistant. "Providers can choose whether they delegate or not, but the message from the leadership team is that the oral exam should be done." Eric Penniman, DO, Primary Care Medical Director, Eastern Division, Marshfield Clinic

Activity 3: Decide on the most appropriate response. Review information gathered; share results with patients and families; and determine course of action using standardized criteria based on the answers to the screening and risk assessment questions, findings of the oral exam, and the values, preferences, and goals of the patient and family.

- The clinician's job is to decide on an initial action:
    - Is the patient at increased risk for oral disease?
    - Does the patient have signs and/or symptoms of oral disease?
    - Are there changes to the patient's medication list that need to be made to optimize oral health?
    - Does the patient need a referral to a dental professional?
    - Does the patient need guidance on oral hygiene best practices, fluoride use, diet, or behavior change to protect his/her oral health?
- The actions are of two types: 1) actions that can be carried out in the primary care setting, or 2) referral to a dentist or medical specialist (e.g., ENT physician).
- The set of appropriate actions for the primary care team are: 1) make changes in the medication list to protect the saliva, teeth, and gums; 2) offer fluoride therapy; 3) offer dietary counseling to protect the teeth and gums; 4) demonstrate and coach good oral hygiene, for example by using teach-back to model brushing and flossing; and, 5) offer therapy for tobacco, alcohol, or drug dependency.

Activity 4: Act by delivering preventive interventions and/or placing an order for a referral to a dentist or medical specialist.

- With the exception of medication list changes to protect oral health, all of the interventions appropriate for primary care can be delivered by a non-clinician member of the primary care team.
- The hand-off to the person providing the preventive intervention (e.g., fluoride varnish) should, whenever possible, include a personal introduction—i.e., a "warm hand-off"—so the patient's experience is one of continuity. The provider should also ask for the patient and/or family's permission before making such an introduction.
- Provision of dietary counseling and oral hygiene training are ideally suited to a care manager or health educator. If a care manager or health educator is not available, the primary care practice will need to determine how it can best support these activities. Options include:
    - Agreeing on scripting for positive, short, clear, and concise messages on recommended behavior, delivered by the provider and repeated frequently by all members of the care team. For example, "It is important for you to brush for two minutes, twice a day, concentrating on the gum line, using a fluoride toothpaste. You should also to floss at least once daily, preferably at night."

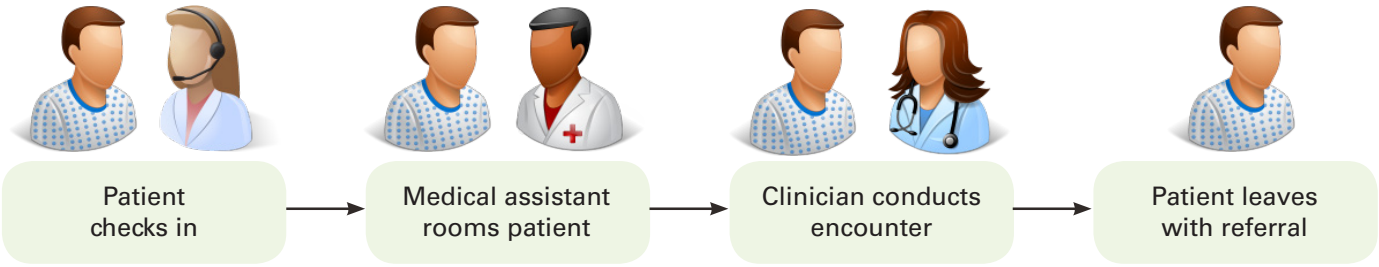
- Training medical assistants, LPNs, or other staff to provide this service.
- If the primary care team does not have time to provide guidance during the visit, it can consider other options. For example, information could be provided in the waiting room or in after-visit summaries.
- Practices serving low-income populations might consider offering free toothbrushes, toothpaste, and floss to support patients and families in developing self-care routines.

- Refer to page 31 for additional information on ordering a structured referral.

Activity 5: Document the findings so that the information can be used to provide continuity in patient care, both within the primary care practice and to coordinate care with dentists and medical specialists. Documentation is also essential to measure care processes and monitor clinical outcomes so that quality of care can be managed (Follow Up).

- Wherever possible, findings and orders should be entered as structured data so that information can be easily recalled for tracking and reporting purposes.
- In most primary care practices, medical assistants enter data on vital signs and other health risks such as smoking status. They also can document symptoms for such conditions as urinary tract infections and respiratory infections using standardized written protocols. The questions in the "Ask" portion of the *Oral Health Delivery Framework* likewise may be entered by a medical assistant and the answers reviewed by the clinician.
- Findings from the brief oral exam should be entered by the person performing the exam. The work of data entry is made easier by designing data entry fields with delimiters that reduce errors by restricting information to a specific format and expected range of values.

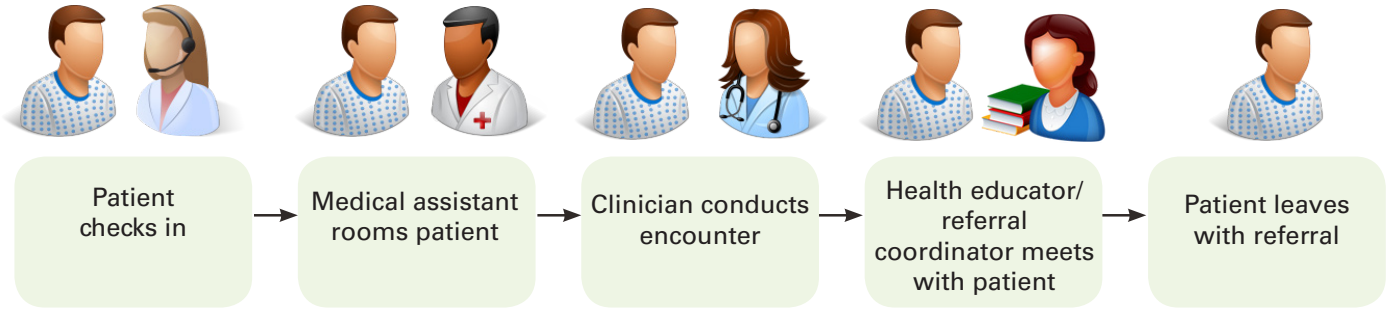
Figure 3: Small Practice Workflow Example: Medical Assistant and Provider Dyad



In addition to usual care tasks:
- Ask oral health risk assessment and screening questions
- Order and pend dental referral if screening questions positive

In addition to usual care tasks:
- Review answers to oral health questions
- Examine mouth
- Sign referral
- Enter additional oral health orders
- Update problem list for oral health
- Print after visit summary with oral health information

Figure 4: Workflow Example for a Primary Care Team with a Health educator and referral coordinator



In addition to usual care tasks:
- Ask oral health risk assessment and screening questions
- Order and pend dental referral if screening questions positive

In addition to usual care tasks:
- Review answers to oral health questions
- Examine mouth
- Sign referral
- Enter additional oral health orders
- Update problem list for oral health
- Print after visit summary with oral health information

Tasks include:
- Dietary counseling
- Oral hygiene training
- Referral coordination
- Fluoride varnish

Incremental Approaches to Implementation

The *Oral Health Delivery Framework* suggests a comprehensive approach to preventive oral health care. Advanced primary care practice settings, such as Patient-Centered Medical Homes (PCMHs), have particular capacities (e.g., team-based care) and staffing resources (e.g., referral coordinators) they can leverage to support the full range of oral health prevention activities included in the *Oral Health Delivery Framework*. These are further described in the next section.

We recognize that many primary care practices may not yet have all of the capacities or resources of an advanced primary care practice, and encourage these practices to consider ways they might address oral health, even if implementation of the full Framework is not possible initially. Specific examples of incremental approaches include:

- Begin with screening patients for signs and symptoms of early disease and develop a structured referral process for dentistry.
- Offer fluoride varnish for pediatric patients per the USPSTF[61] and AAP guidelines; consider indications for fluoride varnish for high-risk adults.
- Focus on patient/caregiver risk assessment and risk reduction through patient education, dietary counseling, and oral hygiene training.
- Identify a particular high-risk patient population (e.g., children, adult patients with diabetes, pregnant women) and begin with a pilot before expanding population/practice wide.

Regardless of where or how a practice begins, the goal is to pursue progressively higher levels of integration, so that over time all patients can expect to receive oral health preventive services and structured referrals from their primary care team.

Structured Referrals

Many of the patients screened in the course of a primary care visit will meet the criteria for a referral to dentistry, such as those with symptoms or signs of caries or gingivitis. Referrals to dentistry ought to be as smooth as referrals to medical specialists. For most practices, this will require developing a network of dentists to which they can refer patients (termed a "primary care-dentistry referral network" in this paper); developing referral agreements similar to those they have with medical specialists, and applying referral support and care coordination processes for referrals to and from dentistry.

A "structured" dental referral should include the information the dentist needs to participate appropriately in the patient's care, for example: the patient's problem list, current medication and allergy lists, the specific reason for the referral, and a statement that the patient is healthy enough to undergo routine dental procedures.

Notification that the patient has been scheduled with the dentist (and the date) should be sent to the referring primary care provider; once the patient is seen by the dentist, a summary of the findings and treatment plan need to be returned to the referring provider so it can be included in the patient's health record.

Developing a Referral Network

Whenever possible, the primary care team should support patients' existing relationships by referring patients with a regular source of dental care to their respective dentist. It can be expected, however, that many patients seen in the primary care setting will not yet have a relationship with a dentist and will need guidance. We recommend that primary care practices identify dentists in their community they believe will be open to participating in a primary care-dentistry referral network. If the primary care practice is not aware of dentists in its local area, or needs a broader network to serve its patients, it can contact the local dental society for information. Dental societies may be able to recommend specific dentists open to new patients or provide a forum for addressing dentists as a group to discuss referral processes and resources. Interested dentists would then be able to ask questions and signal interest in participating in a primary care referral network.

Developing primary care-dentistry referral networks will take effort and commitment from primary care providers, dentists, and their respective teams. For these relationships to be successful, dentists should remain open to caring for patients of mixed insurance statuses.

Cultivating Referral Relationships

Marshfield Clinic knew that many of its patients did not have dental insurance and would not be able to pay for dental care out of pocket. To overcome this potential access barrier, Marshfield Clinic developed a relationship with its local Federally Qualified Health Center (FQHC), which has a co-located dental practice. "I went to talk to the FQHC dentists about our program. They were thrilled that doctors considered them part of the health community and respected the role they have." Eric Penniman, DO, Primary Care Medical Director, Eastern Division, Marshfield Clinic

There are several components, described below, of an effective referral process.

Key Components of an Effective Referral Process

- **Referral Agreements:** Referral relationships work best when there is a shared understanding of the referral process. This can be facilitated by an agreement that outlines expectations; for example, the range of clinical indications for referrals, information to accompany a patient, standards for a timeframe in which patients are to be seen, and the information that will be shared with the referring provider.
- **Logistical Support:** Having a process in place to help patients find and make appointments with dentists, and receive additional support when needed, is an important component of care coordination. Support needs may include transportation, medical interpretation, or other services.
- **Connectivity:** The most challenging part of any referral relationship is the communication between the referring provider (in this case, the primary care provider) and the specialist (in this case, the dentist). Provider satisfaction is highest when standard formats are used to transmit information between referring providers and consultants. There is a range of potential technologies available for this purpose:
    - In some settings, such as FQHCs, the primary care provider and dentist are co-located and share a common EHR; both parties can see common portions of the patient record.
    - Electronic referral systems can move insurance information, clinical data, and embedded protocols between practices without a shared EHR.
    - Primary care and dental practices without these assets can still provide structured referrals by using a variety of workarounds (often used for medical specialty referrals), including faxing referral requests and follow-up reports.
- **Referral Tracking and Coordination:** A referral is completed only when the patient makes an appointment, receives care from the specialist (in this case, the dentist), and information about that care is transmitted back to the referring provider (in this case, the primary care provider) for inclusion in the patient's health record. As is the case for medical specialty referrals, it is the primary care team's responsibility to track these key steps. It is the dentist's responsibility to communicate information back to the referring primary care provider. Expecting the patient or family to ferry information between the referring provider and consultant, or sharing verbal updates, is not consistent with standards of patient-centered, high-quality care.[67]

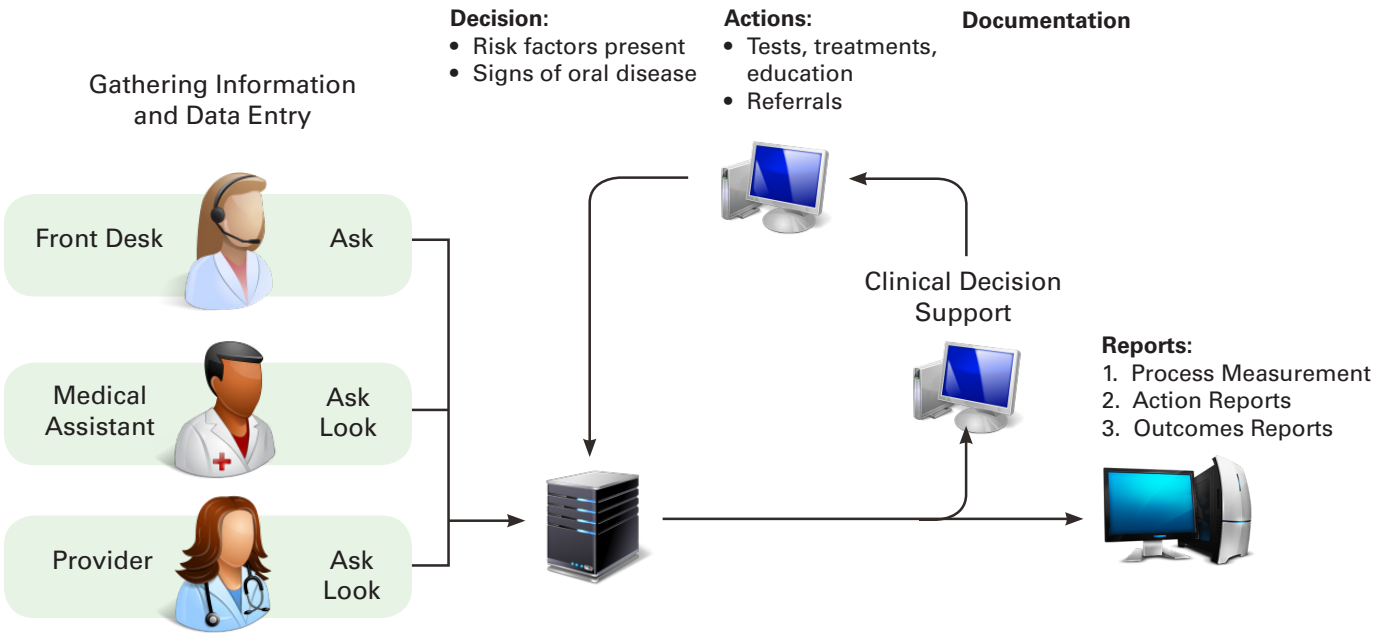
It is the dentist's responsibility to communicate information back to the referring primary care provider. Expecting the patient or family to ferry information between medical and dental providers is not consistent with standards of patient-centered, high-quality care.

Leveraging Health Information Technology

Advances in the use of health information technology have resulted in a set of tools that can help primary care teams address their patients' oral health needs. These include reporting functionalities, which can assist the care team in conducting risk assessments and tracking results; and after-visit summaries and patient portals, which can make it easier to provide patients and families with relevant and tailored (e.g., language of choice) health education information. Figure 5 provides a visual for how information about oral health might can be gathered, used, and shared.

- Most EHRs have features that allow creation of custom data entry fields to record the answers to oral health questions, and document as structured data the findings from looking in the patient's mouth, including the time and date the information was entered. Charting templates can be used to document findings of a brief oral exam. The questions themselves may be presented to patients via a portal prior to the visit, given to patients on a piece of paper at check in, and reviewed or asked by a medical assistant who enters the answers into the EHR while rooming the patient.
- ICD 10 diagnostic codes are available for common oral health conditions, including dental pain, obvious caries, salivary hypo-secretion, and periodontal disease (Refer to Appendix B for a list of common codes relevant in the primary care setting). These diagnostic entries serve as measurable markers for the "Decide" component of the *Oral Health Delivery Framework*, with recognition that actual diagnoses may by changed or updated after a dental exam.
- The EHR can be configured to include patient education materials in after-visit summaries (AVS) to be shared with the patient and family to support self-care.

Figure 5: Oral Health Information Technology Flow



Education and Training

The concepts of prevention, screening, and early intervention to minimize morbidity are foundational to the practice of medicine and nursing, and will be familiar to all members of the primary care team. However, members of the primary care team may not all have received formal education on oral health conditions or risk assessment and screening techniques. Investing in education is an important first step for any practice interested in providing preventive oral health care. Well-tested oral health clinical training programs exist for primary care providers, and can be used to develop the skills and confidence of the entire primary care team.

Options and resources to consider:

- The Smiles for Life curriculum (www.smilesforlifeoralhealth.org) is a free online training resource designed by and for primary care providers. It includes CME modules for pediatrics, pregnancy, and adult care.
- Identify and use an internal clinical champion to provide in-service training.
- Invite a local dentist to provide an in-service training.

Quality Improvement: The Importance of Measurement

To monitor the effectiveness of an oral health integration effort and understand its impact on patients, families, and the practice as a whole, we recommend that practices track a set of measures similar to those identified in Table 1. Ideally, these measures are incorporated into the primary care practice's existing quality improvement dashboard and presented transparently alongside other clinical quality data for staff, patients, and other stakeholders to see.

Table 1: Sample Measures to Understand Impact of Oral Health Integration Efforts

Clinical Process Measures	Percentage of patients given: • A written or verbal risk assessment or screening questions • An oral exam • A referral to a dentist, if indicated based on findings
Intervention Measures	Percentage of patients in need given: • Dietary counseling • Oral hygiene training • Risk behavior education • Fluoride varnish and/or other fluoride supplement therapy • Medication adjustment to address dry mouth
Care Coordination and Referral Process Measures	• Number of referral agreements in place with local dental partners • Percentage of referred patients with a completed dental referral
Patient Experience Measures	• Percentage of patients satisfied with the preventive oral health care offered or coordinated by primary care • Percentage of patients who received useful oral health information, dietary counseling, or oral hygiene training
Practice Experience Measures	• Percentage of staff trained to deliver oral health preventive services • Percentage of staff with demonstrated knowledge of oral health clinical content • Percentage of staff satisfied with dental referral process

A Changing Environment: Primary Care Transformation

While all primary care practices can take meaningful steps toward improving patient and family oral health, Patient-Centered Medical Homes (PCMHs) and other advanced primary care practice models[D] have in place specific capacities that make implementation of the full Framework immediately possible. These practices also have an obligation to address their patients' oral health needs as they strive to provide comprehensive, patient-centered, "whole-person" care.

This section explores the evolution of the PCMH Model of Care and its implications for oral health integration.

Evolution of the Patient-Centered Medical Home Model of Care

In 2007, the major primary care medical associations galvanized the field with a new approach for delivering high-quality, patient-centered, accessible primary healthcare for children, youth, and adults. The resulting "Patient-Centered Medical Home (PCMH) Model of Care" was described by seven "Joint Principles" or characteristics. One defining principle, a "whole-person orientation," set the expectation that primary care assume responsibility for providing for "all of a patient's healthcare needs", or take responsibility for appropriately arranging care with other qualified professionals.[68]

The PCMH Model of Care caught the attention of employers, payers, policymakers, and delivery systems by promising to improve quality, access, and continuity; improve patients' experience of care; reduce health disparities; improve staff satisfaction and reduce provider burnout; reduce avoidable hospital admissions and even reduce total costs of care.[69] Early demonstrations were encouraging,[70-73] and the PCMH Model was quickly recognized as primary care's pathway for achieving the Triple Aim (better health, better experience, lower costs).[74] Local, state, and national initiatives provided resources for primary care practices of all types to redesign their clinical and administrative systems, literally "transforming" the delivery of patient care. Recognition and certification programs were also developed in order to validate a practice's medical home capacity (e.g., expectations for enhanced access to care).

Today, nearly 7,000 primary care practices and 35,000 clinicians in 49 states have attained recognition as a PCMH from the National Committee for Quality Assurance.[75] While the overall percentage of primary care practices recognized as a PCMH by NCQA may be low (10%), the number is increasing dramatically (1,500 in 2011; 7,000 in 2014), in part due to payment incentives and financial support. Many others have been recognized as medical homes by the Joint Commission for Ambulatory Care, and at least six states (MA, MN, NB, OK, OR, and PA) have developed their own medical home recognition or certification programs.[76] Forty-three (43) states have adopted policies or programs to advance patient-centered care using the PCMH or a related model,[77] and there are 500 programs dedicated to improving the health system through enhanced primary care.[78]

D In this paper, we use the term "Patient-Centered Medical Home (PCMH)" to refer to any primary care practice that has the capacity to provide a defined population of patients with enhanced access, continuity of care, and organized and proactive preventive and chronic illness care. PCMHs and like practices have well-functioning care teams and optimize their use of health information technology for the purpose of quality improvement, population management, and patient communication. A practice may have these capacities without identifying as a PCMH.

The primary care delivery system is in the midst of a transformation, striving to provide more patient-centered and value-oriented care. This evolution provides new resources, and a new responsibility, for addressing oral health as a component of comprehensive, whole-person care.

PCMH Capacities for Oral Health

In a fully developed PCMH, an interprofessional team has accountability for whole-person care for a defined panel of patients. Using the information tools of a modern EHR, the PCMH care team has a set of defined workflows to assure that all of their patients receive evidence-based preventive, screening, and educational services. The care team is also equipped to monitor sub-populations of patients at increased risk, including those with chronic diseases, so that complications can be identified early and treated early.

PCMH care teams use the paradigm of "stepped care" for most conditions, by beginning with interventions that cause the least disruption in the patient's life, are the least intensive necessary to produce positive results, and provide a positive outcome with the lowest overall cost.[79] When a patient can no longer be managed in primary care, the PCMH care team has a structured network for referring patients to specialists, including formal agreements with specialty practices covering the standards and expectations for referrals. The care team has processes in place to ensure the patient makes it to the appointment with the specialist, and that the information from the consultation returns to the primary care practice and becomes part of the patient's health record.

PCMH care teams delegate many preventive and monitoring activities to non-clinician care team members with written protocols. For example, medical assistants now frequently perform tests to detect loss of foot sensation in patients with diabetes. Loss of light touch sensation is then followed by an order to a podiatrist signed by the provider. PCMH care teams also engage patients and families in their own care through shared-decision making and specific activation and engagement techniques such as teach-back, motivational interviewing, and self-management support. These techniques are critical for engaging patients in oral health self-care.

Oral Health: The Next Frontier

While patient-centered care has continued to build momentum, the commitment to a "whole-person orientation" has remained for many, only a goal. In 2014, the integration of behavioral health services was recognized through a complementary set of Joint Principles endorsed by several primary care organizations[80] and incorporated into state and national medical home recognition and certification programs.[75, 81] Oral health integration is the clear next step for PCMHs and other practices striving to provide truly comprehensive, whole-person care.

Oral health integration is the clear next step for PCMHs and other practices striving to provide truly comprehensive, whole-person care.

Overcoming Real and Perceived Barriers to Integration

Concern over real and perceived barriers has limited the number of primary care practices incorporating oral health in routine medical care. These barriers are acknowledged. Where possible, we offer strategies and solutions. Specific recommendations for supporting actions from stakeholders are described in the next section.

Time

A common concern with the addition of any new healthcare service is lack of time, particularly for providers. The activities included in the *Oral Health Delivery Framework* are possible to accomplish in a busy primary care practice, so long as the activities are assigned using the principles of "shared care" and efficient workflows are developed to streamline the transfer of information. By using the principles of team-based care and careful workflow planning, primary care teams have been able to incorporate "additional" services in the past, without a significant impact on provider time. Examples include screening and brief intervention for domestic violence, child and elder abuse, postpartum depression, HIV, behavioral health, and substance abuse, among others. For a review of how three different primary care practices were able to incorporate oral health preventive care into their team's workflow with a minimal impact on provider time, read the case examples included on pages 52–61.

"Providers were initially concerned about the time required to add preventive oral health care to the primary care visit, so we selected a pilot team (one provider and one medical assistant) to test the process. After just a few weeks, this team had fine-tuned a workflow adding only 2–3 minutes to the typical well-child care visit. The concerns the providers and department had were washed away. They had testimony from a provider and a staff member who shared how easy this was to do."

John Donaghy, Practice Manager, Confluence Health Wenatchee Pediatric Clinic

"When we created the risk assessment and screening tool, we tried to pare down the questions to the very minimum. To get people over the time concern, we modeled the process live in a staff meeting and had someone time it. We proved that you could get through the oral health risk assessment and screening piece in about 12 seconds. Once people saw that, they felt they could do it."

Eric Penniman, DO, Primary Care Medical Director, Eastern Division, Marshfield Clinic

Education and Experience

Resources to support the development of oral health clinical knowledge in primary care already exist (e.g., Smiles for Life) and continuing education program data demonstrate that primary care providers can reliably screen for oral health problems.[82] Additionally, in 2016, contributors to this white paper will release an implementation guide that will include resources to help primary care practices implement the *Oral Health Delivery Framework*—including workflow mapping tools, referral agreement templates, and patient education and activation resources.

Lack of Evidence-Based Guidelines

Evidence-based guidelines exist for preventing early childhood caries,[61] as do risk assessment instruments,[83] treatment protocols, and resources to support caregiver activation and family self-care. We acknowledge that the evidence base for identifying oral health conditions beyond caries in the primary care setting is limited.[84, 85] While evidence-based guidelines do not exist for all oral health conditions or all patient populations, oral health preventive care is built on sound clinical concepts. We encourage primary care teams to contribute to the growing body of evidence on the benefits of incorporating oral health preventive care in routine medical care.

Payment Limitations

Payment concerns are valid, and we acknowledge they must be addressed. However unfortunate, payment reform typically lags behind delivery system innovations. Recent experience with behavioral health services[E] and lung cancer screening[F] demonstrate that sufficient clinical evidence and consumer pressure are effective motivators for changing public and private health benefit programs. Further—as evidenced by early leaders in the field— we believe that most primary care practices can begin adopting at least a few of the components of the *Oral Health Delivery Framework* within existing payment structures and without undue financial hardship as payment reform efforts continue to mature.

"We haven't seen any negative financial impacts—our doctors still see the same number of patients." *Eric Penniman, DO, Primary Care Medical Director, Eastern Division, Marshfield Clinic*

E As evidenced by mental health parity regulations in 1996 and 2008. For more information, refer to: http://www.cms.gov/CCIIO/Programs-and-Initiatives/Other-Insurance-Protections/mhpaea_factsheet.html

F New evidence on the net benefit of lung cancer screening prompted the USPSTF to recommend screening among adults aged 55–80 with a history of smoking in 2013. Mandatory coverage for this service took effect in 2014. For more information refer to: http://www.uspreventiveservicestaskforce.org/Page/SupportingDoc/lung-cancer-screening/evidence-summary4

Existing Payment Opportunities

Preventive Oral Health Care: Payment to medical providers varies by state and by payer.

- In 2014, 44 state Medicaid programs reimbursed medical providers[G] for administering fluoride varnish to children, and 42 states allowed primary care providers to delegate this service to clinical or non-clinical support staff.[47]
- Fifteen (15) state Medicaid programs provide additional reimbursement to medical providers for performing an oral health evaluation (exam) and/or offering family education.
- All qualified commercial health plans are required to provide coverage for fluoride varnish and fluoride supplementation for children (at no cost to the consumer) as of January 1, 2015.[61, 86]
- Commercial health plans typically include payment for oral health anticipatory guidance under comprehensive preventive evaluation and management services (e.g., well exams).[H]
- Payment opportunities for preventive interventions for adults under Medicaid and commercial health plans have not been well documented, and should be investigated further.

Care Coordination Payments to Support Structured Referrals: Increasingly, payers and policymakers are recognizing the value of care coordination, and are paying primary care providers to manage transitions of care. Some state Medicaid programs pay care coordination or care management fees to primary care providers, as do some commercial insurers. The 2015 Medicare Physician Fee Schedule (PFS) included a monthly "care coordination management" payment for primary care physicians who help manage care for Medicare beneficiaries with at least two chronic conditions. While dentists are not currently included on the list of Medicare-recognized specialists, other oral health specialists are included (e.g., ENT physicians, oral medicine specialists, maxillofacial surgeons).

Future Payment Opportunities

The future of primary care payment is not yet clear, but the general shift away from fee-for-service models to value-oriented models (such as Accountable Care Organizations) can be expected to benefit efforts to integrate behavioral health and oral health in primary care.

G Medical providers under Medicaid include physicians (MD and/or DO), physician assistants, nurse practitioners (NP, FNP, APN, and/or ARNP), and nurses (RN, LPN, PHN). Some states limit reimbursement to physicians only. Many states allow delegation to other recognized healthcare professionals including RNs, LPNs, and medical assistants (CMA or MA).

H For an example, refer to: A Guide to Cigna's Preventive Health Coverage for Health Care Professionals: http://www.cigna.com/assets/docs/health-care-professionals/807467_d_PreventiveHealthCovGuide_v8_HR.pdf

Scope of Practice and Staffing Model Concerns

Concerns over scope of practice and delegation are common in healthcare. Medical practice acts and other regulations that govern which healthcare professionals are allowed to provide (or be paid for) specific services vary by state. In most states, with appropriate supervision, non-physician members of the care team can perform the activities of the Framework described under "Ask" and "Look."

We offer additional guidance on two roles that may be particularly important for primary care teams to consider as they design integrated oral health workflows.

- **Role of Medical Assistants:** While a clinician (usually a physician, physician assistant, or nurse practitioner) is responsible for signing orders for prescriptions, laboratory tests, and referrals, medical assistants increasingly gather and organize clinical information, which (depending on state regulation) may include making decisions that are clinical in nature. For this to work safely, the clinician must take responsibility for ensuring that medical assistants have written protocols for the clinical tasks they perform, understand them, and carry them out properly.

- **Role of Dental Professionals:** Implementation of the *Oral Health Delivery Framework* does not require on-site dental professionals. However, if hygienists or dental assistants are available to a practice, it may be possible to provide additional services. To ensure integration, it is important for these professionals to function as full members of the primary care team. This would include participating in team huddles and quality improvement meetings. Further, while dental professionals can offer an important opportunity to expand the bandwidth of the practice to address patients' oral health needs, their presence on the care team should not obviate primary care providers or other medical support staff from fully engaging in preventive oral health care. State dental practice acts and other rules and regulations may require non-dentist dental professionals to work under the supervision of a dentist in some states; primary care practices can explore options available to them in their state.

Before implementing their integrated oral health program, Confluence Health's Wenatchee Pediatric Clinic asked patients if they would be interested in receiving oral health services in the primary care setting. "We received 60 responses to our survey, and 90% of our families responded positively. This became a motivator for us."
John Donaghy, Practice Manager, Wenatchee Pediatric Clinic

Availability of Consultation and Referral Resources

Primary care providers may be reluctant to screen for oral health conditions if they do not believe they have a referral resource for problems they uncover. There are concerns that dentists in some communities may not be willing to see patients without private dental insurance. Strategies to cultivate referral resources for uninsured and Medicaid patients follow.

- Private dentists with unfilled appointment capacity may be willing to accept a stream of patients with mixed insurance status as preferable to having under-utilized clinic time. Such arrangements are most successful if they are based on personal relationships between medical providers and dentists in the same neighborhood.
- Private dentists may be willing to accept uninsured and/or Medicaid-insured patients if the barriers these patients face in accessing dental care can be addressed prior to the appointment by the primary care team. (For example, by addressing transportation problems to ensure no-shows are kept to a minimum.)
- Some states have specialty referral resources (such as the Access to Baby & Child Dentistry (ABCD) Program and Project Access Northwest) that may be able to assist practices in identifying referral options for patients without insurance or without the ability to meet their plan's cost-sharing requirements. In addition, some state dental associations maintain lists of free or reduced fee dental practices, which could serve as a referral site for patients without dental insurance.
- Federally Qualified Health Centers (FQHCs) that have dental services on site may accept Medicaid patients and treat uninsured patients on a sliding scale. FQHCs are permitted by Federal guidelines to contract with private practice dentists.

Improving Oral Health

Washington State saw a dramatic reduction in untreated decay among preschool children from 2005 to 2010. This improvement in oral health status was credited to dentists and primary care providers working together to identify children with disease and connect them to care. The Access to Baby and Child Dentistry Program has been successful in engaging both dentists in providing care for Medicaid-insured children and in engaging pediatrician and family physicians in delivering oral health preventive services during well-child checks.[87]

"When our commercial patients ask 'who should we see?' we recommend the same dentists that take our Medicaid patients. We do not refer to dentists who do not take Medicaid. Dentists have reacted well to having a balanced mix of patients coming from us." *Kimberly Robbins, Administrator, The Child and Adolescent Clinic*

Where to Begin: Tips for Primary Care Practices

- **Partner with Patients and Families to Plan Your Program:** An important first step in planning an integration effort is to understand the specific oral health needs of your patient population and your patients' and families' highest priorities for oral health care. Eliciting patient and family input can be accomplished through patient and family advisory boards, participation as members of the oral health integration team, patient experience surveys, or focus groups. Experienced patient and family advisors can also partner with practice staff to support community education on the importance of oral health.

- **Engage Patients and Families in Self-Care:** Effective disease management depends heavily upon patients' and families' understanding of the basic disease process, and their confidence in managing their condition. Addressing oral health in the primary care setting will be new for most patients. Primary care teams, particularly care managers, should consider how best to engage patients and families in a conversation on oral health self-care, and be prepared to help patients understand their roles and responsibilities, as well as primary care's new role, in oral health.

- **Identify a Champion:** Changes to practice workflows can be challenging. Clinical champions can help staff overcome their concerns; and engage staff in identifying problems and solutions, improving ownership and, ultimately, sustainability. For more ideas on how to engage staff in oral health prevention, read the case example from The Child and Adolescent Clinic on page 55.

- **Leverage Local Resources:** Consider how to leverage local resources. For example, community health workers, promatoras, AmeriCorps volunteers, or Women, Infant and Children (WIC) specialists may be able to support patient and family education or oral hygiene training, particularly important for small practices that may lack designated care managers or health educators.

- **Identify Financial Support Resources:** Philanthropic and community-service organizations may be able to support patient needs such as transportation or financial assistance for self-care products (e.g., fluoride toothpaste, toothbrushes) or treatment (e.g., orthodontia, restoration) that may not be covered by insurance, or have prohibitive cost-sharing requirements.

- **Engage Stakeholders:** Primary care providers might also consider pursuing advocacy opportunities through their professional associations or academies and medical education institutions. These could include efforts to enhance reimbursement, improve professional partnerships, or increase interdisciplinary training opportunities.

Bi-Directional Referrals

While beyond the scope of this paper, there may be an important role for dentists in identifying common and serious health conditions such as high blood pressure, diabetes, bulimia, and blood dyscrasias. As such, primary care providers and dentists might consider bidirectional referral agreements.

Actions to Spur Implementation

Incorporating oral health in routine medical care offers an important opportunity to improve individual and population health, reduce oral health disparities,[88] and minimize the social and economic costs of preventable oral disease. Primary care practices are well positioned to meet this challenge, but they will need support in order to make the delivery of preventive oral health care viable and sustainable.

Dentists

- **Be a Supportive Referral Partner:**
  - Participate in referral networks and remain open to accepting referrals for patients of mixed insurance status.
  - Provide timely and complete information back to referring primary care providers. A referral is not considered "complete" until the referring provider receives information from the specialist for inclusion in the patient's health record.
  - Become a champion for primary care-dentistry referral networks. Consider the benefits and share these within professional circles. For example, establishing referral agreements with primary care practices can be expected to enhance flow.
- **Establish a Medical-Dental Partnership:** In addition to receiving referrals, consider establishing relationships with primary care practices for medical referrals or consultations. Dentists can benefit from having medical partners available to them, and dental patients without an established medical home benefit if a dentist can make a referral to a primary care provider when needed.
- **Activate and Support Patients and Families:**
  - Take time to describe how oral disease may exacerbate or complicate a patient's other health conditions to help raise awareness of the oral-systemic disease connection.
  - Consider ways to help reset social norms regarding oral health. Reinforce that cavities are preventable, and that losing teeth is not a normal part of aging.
  - Validate that patients and families play a critical role in managing their own oral health, and alert patients that the most important preventive strategy is good self-care.
  - Help orient patients to the idea of oral health being included in routine medical care, consider asking your patients, "What did your primary care provider say the last time she checked your mouth?" Questions such as this help reinforce the importance of oral health for overall health.
- **Serve as an Education Resource and Training Partner:** Volunteer to provide clinical education at a local primary care practice (in-service training), primary care association meeting, or other forum. Lend your expertise to help others develop oral health knowledge.

Validate that patients and families play a critical role in managing their own oral health and alert patients that the most important preventive strategy is good self-care.

Payers

- **Improve Payment for Preventive Oral Health Care for Primary Care and Dentistry:** Payment signals support and indicates priority. All payers should assess the adequacy of their payment for covered oral health preventive services, such as fluoride varnish, and consider expanding coverage options where appropriate (for example, to adults). Payers should also incent primary care-based risk assessment, screening, and care coordination with dentists by offering reimbursement for these critical activities.
- **Institute Coverage for Adults:** Benefits for adult dental services remain optional in Medicaid plans and Federal statute specifically excludes payment for the treatment of teeth and supporting structures under Medicare. Efforts to improve coverage for adults must be pursued.

Primary care practices operate in a world of competing demands, and each new intervention must compete based on evidence and priority to displace other potential care activities. Practice efficiencies can ease the burden, but they do not obviate the challenge of doing more in too little time. Payers must signal support and priority by providing reimbursement to medical providers offering oral health preventive care.

Policymakers

- **Reduce Dental Health Professional Shortage Areas:** Strong primary care-dentistry referral networks depend on the availability of local dentists willing and able to see diverse patients. Policymakers should consider ways to address dental health professional shortage areas by making it more attractive for dentists to serve in rural and other underserved communities, and by reducing the burden of participating in public benefit programs.
- **Invest in Supporting Resources:** Policymakers should also consider investing in community health networks, teledentistry, and other options to support primary care providers in communities with limited dental resources.
- **Identify and Support Opportunities for Community-Based Initiatives:** Changing entrenched social attitudes about oral disease (e.g., perceived acceptability of tooth loss, fear of dental care) and fostering patient responsibility for self-care will require community support. Consider opportunities for community-based prevention and education initiatives in schools, senior centers, and other social services agencies.

- **Invest in Research to Strengthen the Evidence Base for Preventive Oral Health Care:** Make oral health a national research priority. We see a specific and immediate need for: 1) validated screening questions to identify and monitor salivary dysfunction, risk of caries in adults and children, and periodontal disease; 2) clinical decision support tools to assist providers in managing medication lists to reduce iatrogenic salivary dysfunction; and 3) research to document benefits of fluoride varnish for adults. Further, to guide evidence-based policymaking and clinical care in the future, additional research is needed in order to establish the:
  - Effectiveness of screening in improving net health outcomes.
  - Prevalence of conditions in primary care that would lead to referral and definitive care.
  - Acceptability of proposed interventions to patients and families.
  - Cost-effectiveness of proposed interventions.
- **Adopt Standard Quality Metrics for Oral Health in Primary Care:** The vast majority of validated oral health performance measures are restricted to services and interventions provided by dental professionals (e.g., preventive dental visit, dental sealants).[89] Primary care-specific measures should be developed, tested, and incorporated into existing quality reporting mechanisms.
- **Support Community-Based Preventive Services,** including water fluoridation and school-based sealants.[90, 91]

Patient and Family Advocates

- **Activate Patients and Families:** The consumer voice has been critical in championing attention and resources for many health conditions including cancer, multiple sclerosis, and diabetes. Despite the prevalence of oral disease and "pervasive and systematic barriers" to oral health care,[3] there is little consumer activism for improving the delivery of oral health care. While not fully understood, it may be that those who suffer from serious oral disease are even more marginalized than those who suffer from other common, chronic conditions. The lack of consumer engagement in oral health is a lost opportunity and should be explored.
- **Recruit Supporting Organizations:** Identify community or civic organizations engaged in health promotion activities (e.g., HeadStart) and encourage them to add oral health-related messages to existing or planned health education efforts. Consider beginning with organizations that represent the interests and needs of consumers at high risk for oral complications, such as diabetes and cancer. Utilize existing patient and family advisory councils, or community advisory councils involved in healthcare change, to support these efforts.

Educators

- **Bolster Training and Education:** Educators should consider opportunities to strengthen interprofessional healthcare workforce training by ensuring that basic oral health clinical content and competencies are taught and learned. Oral health clinical content is included in many medical, nurse practitioner, midwifery, and physician assistant training programs;[92] inclusion in clinical rotations should be considered.[93] Little is known about the extent of opportunities for medical assistants, nurses, diabetes educators, registered dieticians, behavioral health providers, and others who interact with patients in the primary care setting and who are likely to play a critical role in dietary counseling and oral hygiene training.

The voices of patients and families who are impacted by oral disease need to be heard.

Conclusion

Delivering preventive oral health care in the primary care setting offers the opportunity to expand access for nearly all patients, particularly high-risk and vulnerable patients who bear the greatest burden of oral disease. Primary care teams have the skills necessary to understand and intervene in the oral disease process;[19] the relationships needed to engage patients and families in oral health self-care; and a structure for coordinating referrals to dentistry and supporting patients during transitions of care.

Advanced primary care practices such as PCMHs are positioned to implement the *Oral Health Delivery Framework* in full. Primary care practices still developing advanced capacities (such as team-based care) can consider an incremental approach to implementation. All primary care practices will need support from dentists, payers, policymakers, and other stakeholders in order to make the delivery of preventive oral health care viable and sustainable. Nonetheless, the basic resources—including an organizing framework, training options, and exemplar models—are already available.

It is time to include oral health in routine medical care and achieve the promise of comprehensive, whole-person care for all.

Appendix A:

Integration of Oral Health and Primary Care Practice Crosswalk with the Oral Health Delivery Framework

HRSA Core Clinical Domains	Oral Health Delivery Framework Actions
Risk Assessment • Conduct patient-specific oral health risk assessments on all patients. • Identify patient-specific conditions and medical treatments that impact oral health. • Identify patient-specific, oral conditions and diseases that impact overall health. • Integrate epidemiology of caries, periodontal diseases, oral cancer, and common oral trauma into the risk assessment.	**Ask about symptoms that suggest oral disease and factors that place patients at increased risk for oral disease.** Two or three simple questions can be asked to elicit symptoms of oral dryness, pain or bleeding in the mouth, oral hygiene and dietary habits, and length of time since the patient last saw a dentist. These questions can be asked verbally or included in a written health risk assessment.
Oral Health • Perform oral health evaluations linking patient history, risk assessment, and clinical presentation. • Identify and prioritize strategies to prevent or mitigate risk impact for oral and systemic diseases. • Stratify interventions in accordance with evaluation findings.	**Look for signs that indicate oral health risk or active oral disease.** Assess the adequacy of salivary flow; look for signs of poor oral hygiene, white spots or cavities, gum recession or periodontal inflammation; and conduct examination of the oral mucosa and tongue for signs of disease (HEENOT Exam). **Decide on the most appropriate response.** Review information gathered and share results with patients and families. Determine course of action using standardized criteria based on the answers to the screening and risk assessment questions; findings of the oral exam; and the values, preferences, and goals of the patient and family.

HRSA Core Clinical Domains	Oral Health Delivery Framework Actions
Preventive Interventions • Implement appropriate patient-centered preventive oral health interventions and strategies. • Introduce strategies to mitigate risk factors when identified.	**Act by delivering preventive interventions and/or placing an order for a referral to a dentist or medical specialist.** Preventive interventions delivered in the primary care setting may include: 1) changes in the medication list to protect the saliva, teeth, and gums; 2) fluoride therapy; 3) dietary counseling to protect the teeth and gums, and to promote glycemic control for patients with diabetes; 4) oral hygiene training; and, 5) therapy for tobacco, alcohol, or drug addiction.
Communication and Education • Provide targeted patient education about importance of oral health and how to maintain good oral health, which considers oral health literacy, nutrition, and patients' perceived oral health barriers.	
Interprofessional Collaborative Practice • Exchange meaningful information among healthcare providers to identify and implement appropriate, high-quality care for patients, based on comprehensive evaluations and options available within the local health delivery and referral system. • Apply interprofessional practice principles that lead to safe, timely, efficient, effective, equitable planning and delivery of patient- and population-centered oral health care. • Facilitate patient navigation in the oral health care delivery system through collaboration and communication with oral health care providers, and provide appropriate referrals.	**Document the findings as structured data to organize information for decisions support, measure care processes, and monitor clinical outcomes so that quality of care can be managed (Follow Up)**

Appendix B:

ICD 10 Codes: Oral Health in Primary Care

ICD10 Code	Condition
K02.9	Dental caries, unspecified
K02.7	Dental root caries
K05.0	Acute gingivitis
K05.6	Periodontal disease, unspecified
K03.2	Erosion of teeth
K08.1	Complete loss of teeth
K11.7	Disturbances of salivary secretion
K13.2	Leukoplakia of oral mucosa
K14.0	Glossitis

Case Example 1:
Providing Comprehensive Care for Patients with Diabetes:
Experience from Marshfield Clinic

The Marshfield Clinic is the second largest private group medical practice in Wisconsin with over 700 physicians, 50 locations, and 380,000 patients. In this case example, Dr. Eric Penniman, DO, a Medical Director for Primary Care, describes the experience of three sites pilot testing integrated oral healthcare for adult patients with diabetes.

The impetus: "A member of our research team, who was trained as a dentist and has diabetes, took our clinic's diabetic education class. He noticed that in seven hours, no one talked about the importance of good oral health. At the end, he asked us why. Everyone was left scratching their head with no good answer. Frankly, I was embarrassed that as a family doctor I'd been ignoring this important piece of healthcare," admitted Penniman. "Once we saw this gap, we knew we needed to address it."

The process: Attention to patients' oral health begins at the very start of the clinical visit. "When a patient checks in for an appointment, the clerk asks who their dentist is, and enters that information into the patient's health record," explained Penniman. Marshfield Clinic developed a standard oral health collection tool for its EHR, Cattails. This tool guides the care team through a series of risk assessment and screening questions, helps them record findings from the brief oral exam as structured data, and flags patients overdue for a dental exam. "During the rooming process, the medical assistant asks the patient about the last time they saw a dentist; or if they don't have a dentist, if they'd like one. The medical assistant also introduces the importance of oral health for patients with diabetes," explained Penniman. After the care team completes other preventive and chronic care activities, they return to the oral exam and look into the patient's mouth for signs or symptoms of oral disease, such as bleeding gums, lesions and decay. If a patient is identified to be in need of dental care, the provider orders a referral. "If they don't have a dentist, then we refer them to our local Federally Qualified Health Center's (FQHC's) dental clinic, or a Marshfield dental clinic if they live near one. If they already have a dentist and just haven't been lately, then it's a matter of encouraging them to get an appointment," explained Penniman.

At the end of the visit, the provider reinforces the importance of oral health. "If we can consistently get providers to share that it's especially important for patients with diabetes to take care of their oral health, then that's a win," shared Penniman. "We want providers to weave oral health messages in to what they are already talking about with their diabetic patients; for example, that poor oral health contributes to coronary disease, kidney disease, and other complications." An important component of Marshfield Clinic's oral health program is its commitment to proactive care. "For patients that have teeth, we want a dentist to check their mouth every 6 months," explained Penniman. "We review data from the oral exam tool and when we identify patients that have not seen a dentist within 12 months, or not seen us, we call them and encourage them to make an appointment with their dentist or help them find a referral source if they don't have a dentist," explained Penniman.

"If we can consistently get providers to share that it's especially important for patients with diabetes to take care of their oral health, then that's a win."

Patient reactions: Reactions from patients have been positive, shared Penniman. "They appreciate that their doctor cares about their mouth." He continues, "You can see the light bulb come on for patients, not dissimilar to the light bulb that came on for us doctors when we realized we were leaving oral health out."

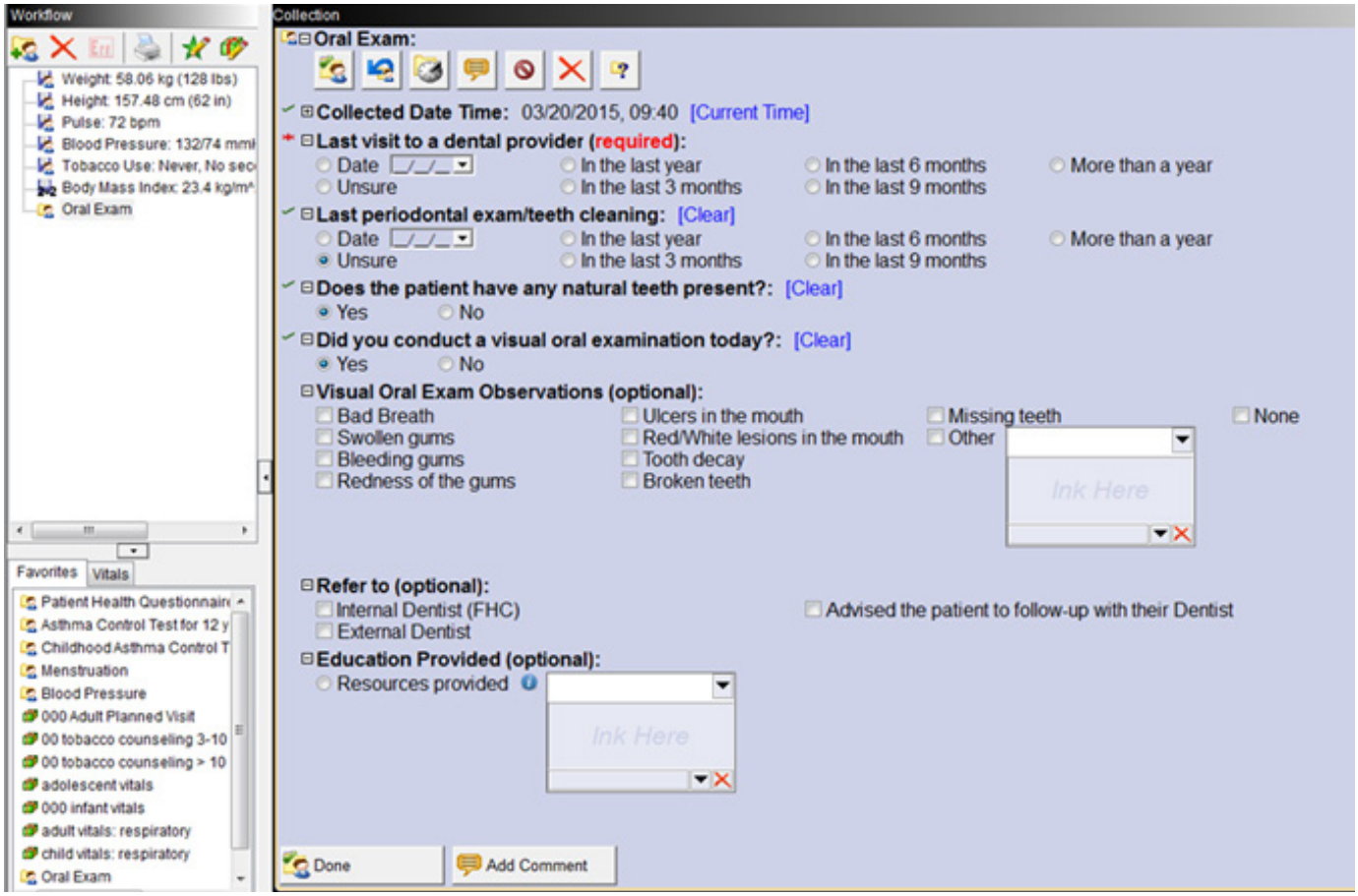
Building buy in: "There were concerns about adding one more thing to an already packed visit and concerns about how adding time to clinical visits might impact patient access," shared Penniman. "There is so much to do in primary care, we need to make sure that whatever we add is efficient. So we set it up so everything we do for oral health doesn't add more than 30–60 seconds to the overall visit." Penniman explained: "When we created the risk assessment and screening tool, we tried to pare down the questions to the very minimum. To get people over the time concern, we modeled the process live in a staff meeting and had someone time it. We proved that you could get through the oral health risk assessment and screening piece in about 12 seconds. Once people saw that, they felt they could do it."

Impact: Marshfield Clinic expects all patients with diabetes to receive oral health risk assessment, screening, education, and referral from their primary care team. As a process measure, they track the number of patients who receive an oral exam in primary care and the number who report receiving care from a dentist within the past 6, 9 or 12 months. "We expect to see improvements in these process measures within the next year," shared Penniman. "A next step will be outcome measures." Marshfield Clinic has been able to add the oral exam as a component of routine care for patients with diabetes without added reimbursement from Medicaid or private payers. "We haven't seen any negative financial impact—our doctors still see the same number of patients," explained Penniman. "We're focused on the whole patient, on closing the gap. You don't always have to provide a financial incentive for a primary care provider; they have a mindset, a commitment to the patient."

What advice does Marshfield offer to other practices interested in supporting patients' oral health?

- **Cultivate champions:** "I'm a huge believer that when you're going to launch something new, have a local champion," shared Penniman. "I reached out to some of our providers who I thought would be interested in oral health, and asked them to take this on and figure out how it could be done. Rather than me telling the troops to do one more thing, they presented the work at provider meetings. That was key."
- **Focus on the 'why':** "The real key is to focus on the 'why.' Talk to those people who have already stepped up from a quality improvement perspective and show them the research. If you can point out the huge gap between what we know is important and what we are actually doing, they will be motivated to change."
- **Take an incremental approach:** The Marshfield Clinic has been thoughtful in scaling its oral health integration efforts. "You have to take this work in chunks to get people used to it," explained Penniman. "We purposefully chose to start with diabetic patients. As a disease, it is the most expensive. Secondly, there's already so much we're trying to do, and the research supported focusing on oral health."
- **Balance standardization and flexibility:** While Marshfield Clinic has carefully standardized the oral exam process, they provide each care team the flexibility to assign tasks to staff. Some providers conduct the oral exam, while others delegate to a member of their team, typically a medical assistant. "Providers can choose whether they delegate or not, but the message from the leadership team is that the oral exam should be done," explained Penniman.
- **Recruit partners:** The Marshfield Clinic knew that many of its patients did not have dental insurance and would not be able to pay for dental care out of pocket. To overcome this potential access barrier, Marshfield Clinic developed a relationship with its local FQHC, which has a co-located dental practice. "I went to talk to the FQHC dentists about our program. They were thrilled that doctors considered them part of the health community and respected the role they have." A next step for Marshfield Clinic is to develop referral relationships with local private practice dentists.

Figure 6: Oral Health Template Tool



Case Example 2:
The Child and Adolescent Clinic:
Engaging Patients and Staff in Oral Health

The Child and Adolescent Clinic (CAAC) is a 13-provider, two-site private pediatrics practice in southwestern Washington State. Seventy percent (70%) of CAAC's patients are covered by Medicaid. CAAC launched its oral health integration program in 2009 and today provides family oral health education, oral exams, fluoride varnish, and coordinated referrals for patients birth through age 21. "We have seen huge improvements in the oral health of our patients and the oral health of our community as a whole," stated Kimberley Robbins, CAAC's Administrator. In this case example, Robbins describes how CAAC was able to engage staff in developing an effective and sustainable oral health program.

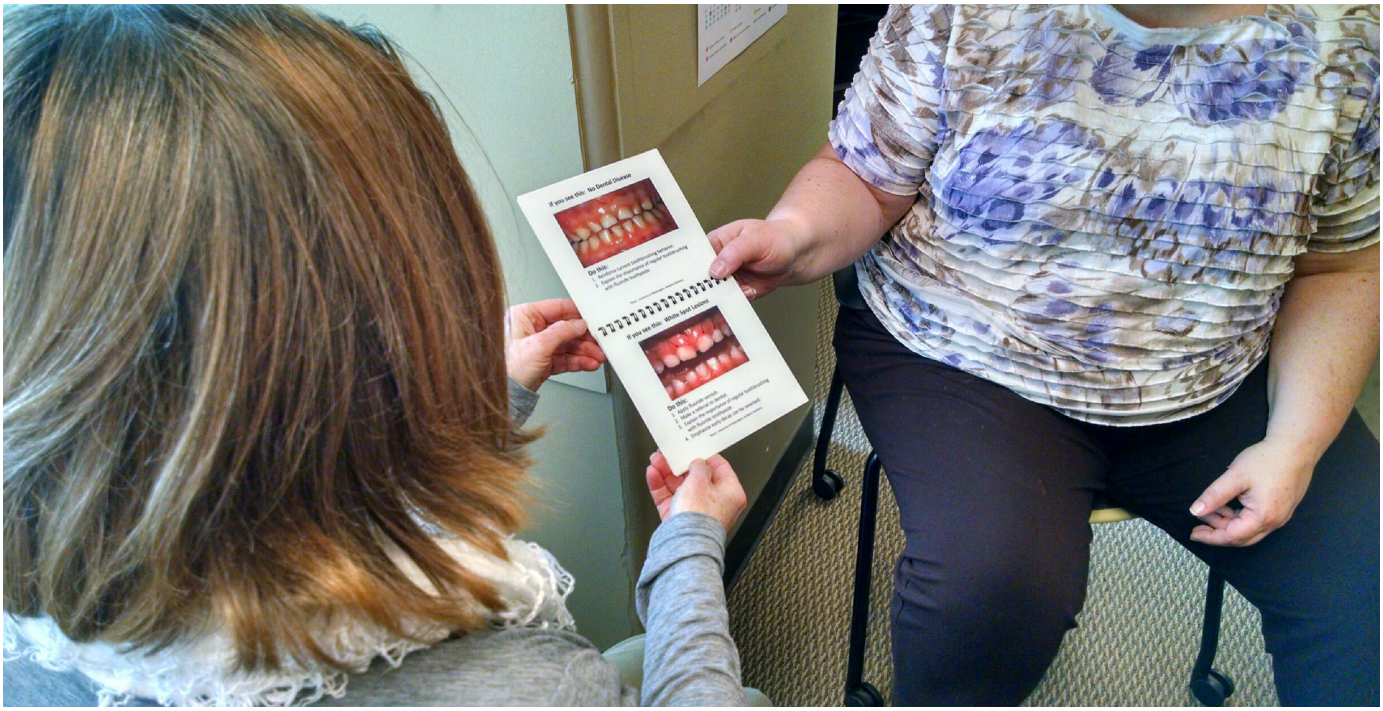
Program Overview

At check-in, patients and families are given a flyer that describes CAAC's oral health program, the importance of good oral health, and the recommended schedule for fluoride varnish. The flyer also includes a few brief screening questions to help the primary care team understand the patient's risks for oral disease. Family oral health education is provided at the very beginning of the visit by the medical assistant. Each exam room includes a flip chart with images of common problems parents should look for (e.g., white spots) and how fluoride varnish is applied. Medical assistants use this resource to engage families in a discussion on oral health self-care, and then demonstrate good brushing and flossing techniques. The medical assistant also asks each family if they have a dental home. "If not, we enter 'lack of dental care' as part of the chief complaint," noted Robbins.

"When our commercial patients ask 'who should we see?' we recommend the same dentists that take our Medicaid patients. We do not refer to dentists who do not take Medicaid. In fact, most of our staff won't see a dentist who doesn't take Medicaid patients, even for their own oral health...Dentists have reacted well to having a balanced mix of patients coming from us. We have heard from the dentists we refer to that they are appreciative that we are actively referring commercial patients to them."

CAAC serves a high percentage of Medicaid and uninsured/self-pay patients, as well as many non-English speaking families. To remove barriers to self-care, CAAC provides education through a medical interpreter and offers free toothbrushes. After the medical assistant has answered the family's questions, the provider enters, completes the oral exam and remaining well-child care services, discusses the importance of fluoride varnish, and orders it to be applied by the medical assistant. The provider also determines whether the patient needs a referral to a dentist. If the family does not already have a relationship with a dentist, she gives the family a business card for CAAC's referral coordinator. Referral coordinators provide support to ensure families have what they need in order to access care. This includes identifying a dentist that will take the patient's insurance, making an appointment for the patient, and arranging for transportation and medical interpreters, if needed.

Figure 7: Patient Education Flip Chart for Caregivers



CAAC struggled to find referral resources for patients in need of dental care and without private dental insurance. "We used to have just one dentist in the community who would accept Medicaid patients; now we have two," noted Robbins. What helped CAAC elicit local support? "When our commercial patients ask 'who should we see?' We recommend the same dentists that take our Medicaid patients. We do not refer to dentists who do not take Medicaid. In fact, most of our staff won't see a dentist who doesn't take Medicaid patients, even for their own oral health," shared Robbins. "Dentists have reacted well to having a balanced mix of patients coming from us. We have heard from the dentists we refer to that they are appreciative that we are actively referring commercial patients to them." CAAC also works with a local dental foundation and community partners to support a mobile dental unit, SmileMobile, to provide access for patients without insurance. The mobile van is available twice per year at the clinic site and is able to provide dental cleanings, restoration and other services.

Improving Patient Health, Improving Community Health

"Our county was notorious for having the worst child oral health in the state. In the years since we implemented this program, we have turned that around," noted Robbins. "We've seen a decrease in the number of days our local dentist spends in the hospital doing restoration under anesthesia. He used to be in the hospital 4–5 days a month, but now it's only 1–2 days, because there are so many fewer patients that need surgical intervention. That's success."

"This work is meaningful to the team, meaningful to the pediatrician, and best for our patients. It's that simple."

Strategies for Building and Spreading an Effective Program

CAAC successfully spread its oral health program to all 13 providers in both clinic locations over a period of about 15 months. "The most challenging aspect of this work has been getting the process right and then getting that process to stick," explained Robbins. "We had to keep coming back to it over and over again. When it wasn't working for some reason, or when a service was only being offered a minor percent of the time, we had to assess why—what's the hold up? And then we had to figure it out."

First, CAAC invested time in staff training and engagement. "Initially there were concerns from staff," admitted Robbins. CAAC arranged for training to help staff members gain confidence in providing oral health preventive care, and they trained entire pods together meaning physicians, nurse practitioners, and medical assistants received the same information at the same time, and had the opportunity to ask questions and share experiences with one another. Robbins credits this team approach as a key determinant in their success.

Second, CAAC made the expectation that all patients receive oral health preventive care explicit, and then provided transparent data to allow care teams to monitor their own performance and the performance of the practice as whole. CAAC produced a quarterly report to show the percentage of patients eligible for an oral exam, family education, and fluoride varnish, and the percentage that received those services in the given time period for each provider and team. Refer to Figure 8 for an example. CAAC also used standing Quality Assurance weekly meetings as a forum for communication and engagement—first for planning the oral health integration program and then for improving specific processes. "We also used these meetings as time to share what was working well and share tips." explains Robbins. "Every provider has a different style and they can teach each other." Reviewing data at the team level, and with an eye for improvement, created a culture of shared accountability and a willingness to identify and solve process challenges head-on. "Getting and taking input from staff was essential," noted Robbins.

Figure 8: Transparent Data on Provider and Team Performance, Preventive Oral Health Care for Children 1–5 Years of Age

	Dr. John Doe			Dr. Jane Doe		
	Jan-Mar 2013	Apr-Jun 2013	Jul-Sep 2013	Jan-Mar 2013	Apr-Jun 2013	Jul-Sep 2013
1–5 yr WCC Visits	116	116	92	68	89	74
	Units Delivered					
Family Ed ($27.58)[I]	6	59	63	12	65	76
Periodic Oral Eval ($29.46)	9	57	65	10	68	78
Fl Varnish ($13.25)	55	62	77	32	53	58
	Percentage (Goal is to achieve >100% by applying fluoride varnish at opportunities other than at well child exams)					
% Fl Varnish 1–5 yr	47%	53%	84%	47%	60%	78%
% Oral Eval 1–5 yr	8%	49%	71%	15%	76%	105%[J]

I 2013 Medicaid reimbursement rates in Washington State.

J Some percentages exceed 100% because services can be provided outside of well-child visits.

For example, initially CAAC provided information on fluoride varnish during the family education portion of the visit. Staff noticed that some parents were refusing fluoride because they did not have enough time to learn about fluoride and its benefits before being asked to give permission for application. This finding led the practice to include basic information about fluoride varnish and the application schedule in the oral health education flyer given at check-in so that parents had time to process the information before being asked to make a decision.

Similarly, initially medical assistants applied the varnish at the very beginning of the visit, concurrent with family education. However, the application process upset some children, making subsequent interactions between the child, parent, and provider more challenging for other important well-child visit activities, such as developmental screening; and this lead some care teams to skip applying varnish. Care teams then experimented with applying varnish at the very end of the visit (after the provider had left the room) and after immunizations or other services had been completed. However, this approach proved to be problematic—too many families left before the fluoride varnish could be applied. After team brainstorming and small tests of change, CAAC settled on a process that worked well for patients and providers: medical assistants would apply fluoride varnish after the provider completed the well-child care exam, but before immunizations and other after care services.

Both changes resulted in an increase in the proportion of eligible patients receiving family oral health education, an oral exam, and fluoride varnish at well-child care visits.

What was the turning point in getting the process to stick? "Ultimately, what made it work was building the entire process [education, evaluation, varnish] into the template for the well child visit and then tasking each activity, so the medical assistant rooming the patient has the task of doing the oral health family education. She can't check off that task until it is done. The discipline of the EHR was key," explained Robbins. "Today our program is self-sustaining. Medicaid and private insurance reimbursement amounts are sufficient to cover the cost of our time and equipment, including self-care products for patients who cannot afford them."

What comes next for CAAC? "I'm excited to see what this looks like in another generation," Robbins shared, "getting these parents and children oral health education, and then seeing what happens when they pass it along to their children."

"Assess the caries rate of your Kindergartners, and then do it again in four years. You will see an impact within just a few years, and you'll have all the validation you need to keep going."

Case Example 3:
Understanding Oral Health as Core Preventive Care:
Lessons from Confluence Health's Wenatchee Pediatric Clinic

Confluence Health is an 11-site, 300+ provider healthcare system with locations throughout north central Washington State. The Wenatchee Clinic's Pediatric Department, which serves primarily Medicaid patients, began delivering integrated preventive oral health care in 2014. Today, they provide fluoride varnish for patients birth through 18 as well as oral health evaluation and family education for patients 5 and under. In this case example, John Donaghy, Practice Manager for Wenatchee Clinic's Pediatric Department, shares his practice's motivators, success factors, and plans for spread.

Motivation

"A key motivator for our organization is preventive care, and we saw integrating oral health as a way to help our youth," explains Donaghy. "A significant number of our patients don't receive basic oral health services, so we are the starting point for good oral health." Providers were initially concerned about the time required to add oral health preventive care to the primary care visit, so the Wenatchee Pediatric Clinic selected a pilot team (one provider and one medical assistant) to test the process. After just a few weeks, this team had fine-tuned a workflow adding only 2–3 minutes to the typical well-child care visit. "The concerns the providers and department had were washed away. They had testimony from a provider and a staff member who shared how easy this was to do," recalled Donaghy.

> "A significant number of our patients don't receive basic oral health services, so we are the starting point for good oral health."

Success Factors

Donaghy credits clinical and administrative leadership and Confluence's prevention-focused culture as key factors in the clinic's success. "We stand by our mission statement to deliver innovative ways to improve the delivery of excellent, high-value care. When we identified oral health as something we could provide to our patients, I didn't have to make the staff do it; they wanted to do it, and they were willing to be accountable without needing an incentive. A lot of our staff have children, and they know exactly what they would want if they were going to come to an office," shared Donaghy.

> "We stand by our mission statement to deliver innovative ways to improve the delivery of excellent, high value care. When we identified oral health as something we could provide to our patients, I didn't have to make the staff do it; they wanted to do it, and they were willing to be accountable without needing an incentive. A lot of our staff have children, and they know exactly what they would want if they were going to come to an office."

What else helped?

- **Engaging patients and families:** Before implementing their integrated oral health program, Wenatchee Pediatric Clinic asked patients if they would be interested in receiving oral health services in the primary care setting. "We received 60 responses to our survey and 90% of our families responded positively. This became a motivator for us," shared Donaghy.
- **Setting the course:** "This was a learning process for all of us. We had to understand the Medicaid reimbursement model and figure out specific processes," shared Donaghy. "Because we were able to clearly articulate a goal and cultivate clinical champions, we had a strong sense of 'why'. The 'how' followed." Donaghy recommends other sites be realistic in their implementation planning process, and engage staff in the planning process. "You have to have everyone on board. Be transparent about what you are doing and why."
- **Creating standard work and formal documentation:** "We were able to design and implement our program in 6 months," recalled Donaghy. "Once we identified a process that worked, we formalized it and created supporting tools. We added a Dot Phrase Oral Health Template to our EMR (EPIC) to guide our team through the process and make sure nothing is missed." (Refer to Figure 9 for a sample EPIC Template). "All providers do it the same way now," explained Donaghy, "Oral health is standard work."
- **Using data to drive change:** The Wenatchee Pediatric Clinic collects and transparently reports data to help care teams understand the impact of the oral health program, and identify opportunities to improve and expand services. "We have an RVU report that shows how many patients are eligible for oral health services, how many actually receive them, and the breakdown per provider of the costs of their supplies and the value of their reimbursements," explained Donaghy. "We use this report to show providers if they are meeting the goal of 100% of eligible patients receiving oral health care, and to demonstrate the revenue they are bringing into the practice to keep our program sustainable."

Based on the success of the Wenatchee Pilot, Confluence Health is exploring options to spread the work, including expanding their pediatric program to children with commercial insurance. "When you have your staff and providers on board to do this, you can go as far as you want. There's a ton of potential," shared Donaghy.

Figure 9: EPIC Oral Health Template

Provider Section:

Oral Disease Prevention

- I have performed a screening examination of the teeth and gums.
- Teeth have erupted and appear normal in shape, size, color, and location. Areas of concern include {specify}
- White spots or decay {are/are not} present.
- Redness or swelling in the gums {are/are not} present.
- Other areas of concern include: {specify}.

Assessment

- {Child/Adolescent Oral Disease Assessment}
- Patient {has/has not had} previous dental disease.
- If previous dental disease, please specify ***
- Patient {is/is not} at risk for dental disease.

CMA Section:

Education

- {Child/Adolescent Oral Health Education Conf}
- Fluoride varnish {was/was not} applied.
- Fluoride supplements {WERE / WERE NOT} prescribed.
- Referral to dentist {was/was not} made.
- Time spent with patient ***

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